

**MICROLEPIDOPTERA  
OF NEW GUINEA**  
RESULTS OF THE THIRD ARCHBOLD EXPEDITION  
(AMERICAN-NETHERLANDS INDIAN EXPEDITION 1938-1939)

**PART III**

BY

**A. DIAKONOFF**

*Rijksmuseum van Natuurlijke Historie, Leiden*

(WITH TEXT FIGURES 373-551)

VERHANDELINGEN DER KONINKLIJKE NEDERLANDSE  
AKADEMIE VAN WETENSCHAPPEN, AFD. NATUURKUNDE

TWEEDE REEKS, DEEL XLIX, No. 4



1954

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AMSTERDAM

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The present paper forms the third part of the report on the Microlepidoptera of the Third Archbold Expedition to the Netherlands New Guinea, 1938—1939. The previous parts were published in no. 1, pp. 1—167, 1952 and in no. 3, pp. 1—166, of this volume.

In the present part are given descriptions and records of the Schoenotenidae, the Chlidanotidae, the Carposinidae and the Copromorphidae. 13 genera and 105 species are described as new.

## SCHOENOTENIDAE

This recently described family forms the most novel and therefore, perhaps, the most interesting feature of the present collection. It is so richly represented — seven genera and 77 species are described or recorded below — that it seemed worth while to use this opportunity for presenting a brief synopsis of the whole group. We reviewed all the genera that are known at present. Reviews of those not represented in the collection of the Expedition are printed in small type.

As this family has been described and its affinities, distribution, and possible origin have been discussed at some length quite recently (DIAKONOFF, 1952, *Zool. Meded. Mus. Leiden*, Vol. 31, pp. 165—170, figs. 1—5), we need not return to this matter here. It may suffice to give a map of the distribution of the Schoenotenidae, as far as our data allow at present (fig. 373), and to present a key to all the genera known, in addition to the provisional key in the above mentioned publication. These data, however, increase continually, and the number of additional, as far undescribed forms at our disposal is considerable. We anticipate, therefore, a quick growth of this newly born group.

The importance of this family for our insight in the taxonomy of the higher units of the Tortricoid superfamily seems to be considerable. As far as we can see its affinities now, it might represent a link between the tortricoid groups *sensu stricto*, viz. Tortricidae at one side, and the as far rather obscure Copromorphidae at the other — and through them indicate a connection, or, perhaps, one of the polyphyletic connections between the above mentioned superfamily and the Tineoidea *sensu lato*.

### Key to the genera of the Schoenotenidae

1. Fore wing with veins 7 and 8 stalked . . . . . *Paraselenia* MEYRICK  
Fore wing with veins 7 and 8 separate . . . . . 2
2. Fore wing with veins 3 and 4 stalked . . . . . *Choristenes* gon. nov.  
Fore wing with veins 3 and 4 separate . . . . . 3
3. Hind wing with stalk of veins 6 and 7 very long, originating from base of wing, often connected by a transverse bar with middle of upper edge of cell. 4  
Hind wing with stalk of veins 6 and 7 short or moderate, from upper angle of cell or from middle of obliquely running upper edge of cell . . . . 7

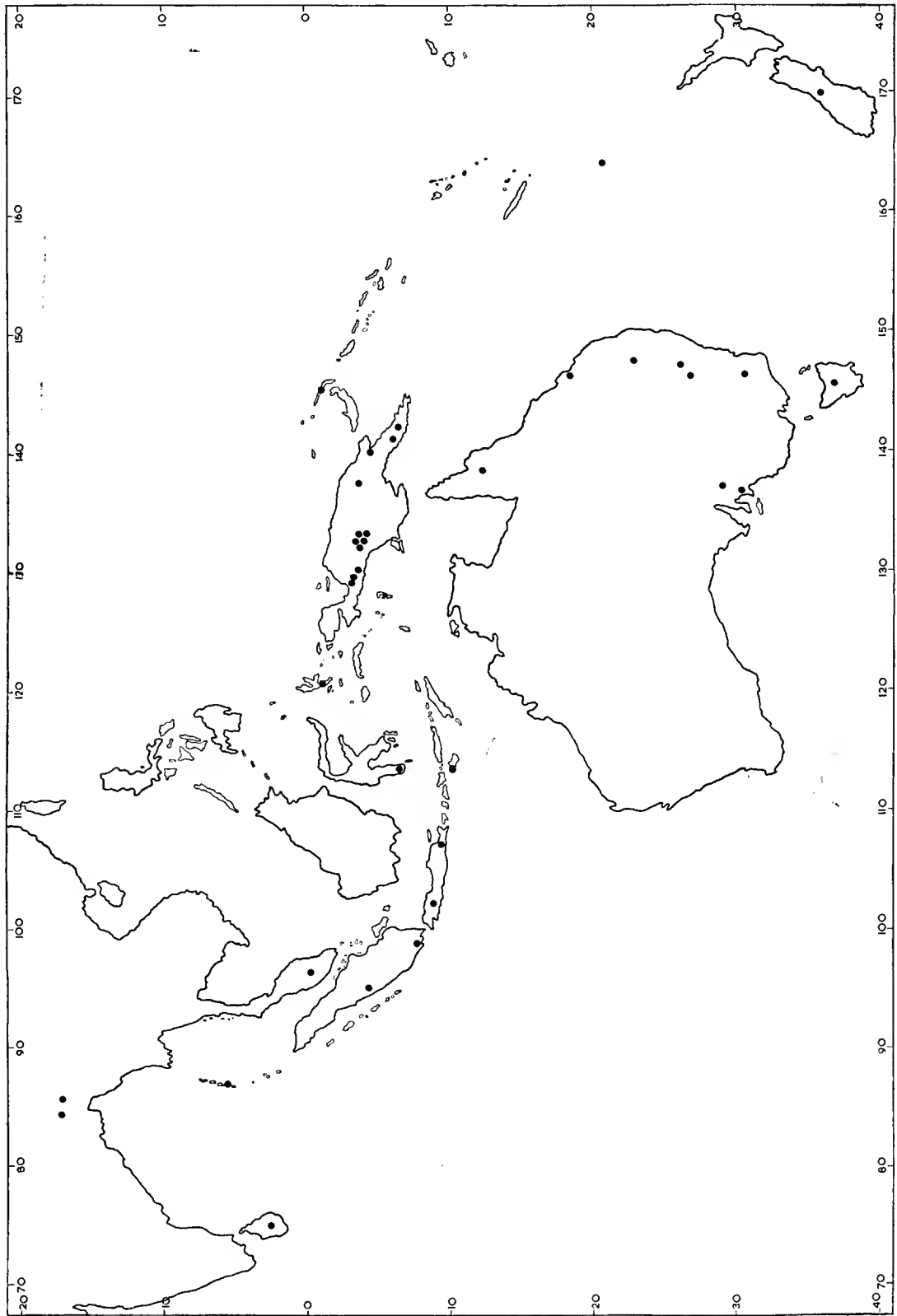


Fig. 373: Distribution of Schoenotenidae.

4. Fore wing with vein 1b strong throughout, furcate along basal two-thirds . . .  
     . . . . . *Xenotenes* gen. nov.  
     Fore wing with vein 1b not thus furcate . . . . . 5
5. Hind wing with stalk of 6 and 7 from near base of upper edge of cell . . .  
     . . . . . *Diactenis* MEYRICK  
     Hind wing with stalk of 6 and 7 from base of wing, connected by a transverso  
     bar with upper edge of cell . . . . . 6
6. Hind wing with veins 2-4 remote and equidistant, 3 from before angle. . .  
     . . . . . *Proselena* MEYRICK  
     Hind wing with vein 3 from angle, nearer to 2 than to 4 . . . . .  
     . . . . . *Proactenis* DIAKONOFF
7. Hind wing with veins 3 and 4 approximated at base or connate . . . 8  
     Hind wing with veins 3 and 4 widely remote . . . . . 9
8. Palpus moderate, porrect or subascending . . . . . *Schocnotenes* MEYRICK  
     Palpus long, ascending, posterior half bent and porrect . . . . .  
     . . . . . *Copidostoma* gen. nov.
9. Hind wing with veins 4 and 5 remote . . . . . *Oligotenes* gen. nov.  
     Hind wing with veins 4 and 5 approximated, connate or stalked . . . 10
10. Hind wing with a compressed longitudinal fold concealing upper edge of cell,  
     reaching three-fourth towards edge of wing . . . . . *Stenotenes* gen. nov.  
     Hind wing without such a fold . . . . . 11
11. Palpus with terminal segment arched upwards; hind wing with veins 4 and  
     5 approximated . . . . . *Palaeotoma* MEYRICK  
     Palpus with terminal segment porrect; hind wing with veins 4 and 5 app-  
     roximated, connate, or stalked . . . . . *Metachorista* MEYRICK

The genera of the Schoenotenidae which are not represented in the present collection are also briefly reviewed below, for the sake of completeness.

#### **Proselena** MEYRICK, 1881 (fig. 388)

*Proselena* MEYRICK, 1881, Proc. Linn. Soc. N.S. Wales, vol. 6, p. 421; Lepid. Catal., fasc. 10, p. 1, 1912. Gener. Ins., fasc. 149, p. 7, pl. 1, fig. 12, pl. 5, fig. 73, 1913. FLETCHER, Mem. Agr. Ind., Ent., vol. 11, p. 186, 1929. DIAKONOFF, Zool. Meded. Mus. Leiden, vol. 31, p. 170, 1952.

*Prothelymna* MEYRICK, 1883, Trans. N. Zeal. Inst., vol. 15, p. 57 (genotype *antiquana* WALKER, 1863).

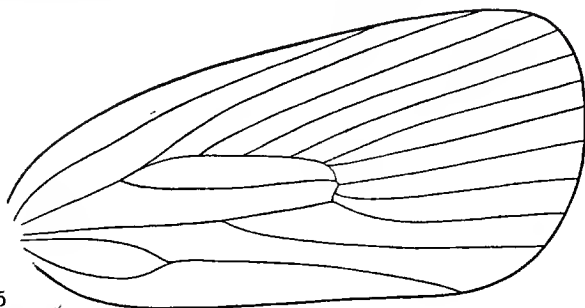
Head with appressed scales. Ocellus absent. Proboscis very weak. Antenna in male moderately eiliate. Labial palpus moderate, porrect, median segment dilated with roughly projecting scales above and beneath, terminal segment short, subobtusate, slightly drooping. Maxillary palpus absent. Thorax without crest. Fore wing without tufts of raised scales, elongate, subacute, rather narrow, termen rounded, very oblique. 1b furcate at base, 2 from middle of lower margin of cell, 3 from angle, short, 4 closely approximated at base, 7 separate, from angle, to termen, 8 closely approximated at base, 9 moderately approximated, 10 from midway between 9 and 11, 11 from slightly before middle, cell rather narrow, sinuate, narrowed posteriorly, parting vein sinuate, from beyond halfway between base of cell and 11, to above base of 5. Hind wing elongate-semiovate, 2 from  $\frac{2}{3}$ , 3 from halfway between 2 and 4, 4 from angle,

5 separate, little approximated, closing vein very oblique, 6 and 7 long-stalked, stalk from base of wing, connected by an outwardly oblique bar from before middle with cell at about  $\frac{2}{3}$ , 8 strong, straight posteriorly; cell narrow, broadest at  $\frac{2}{3}$ .

Genotype *Proselena annosana* MEYRICK, 1881 (Australia).



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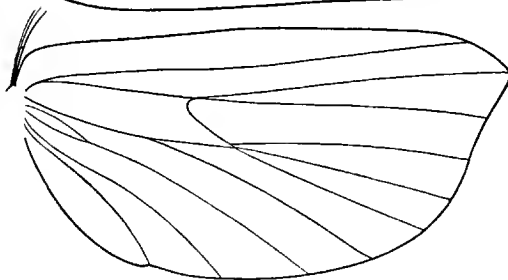
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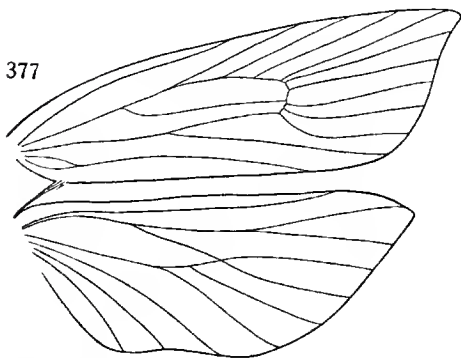
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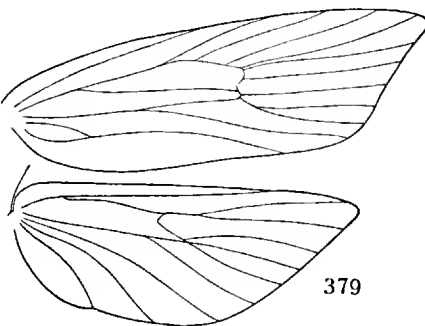
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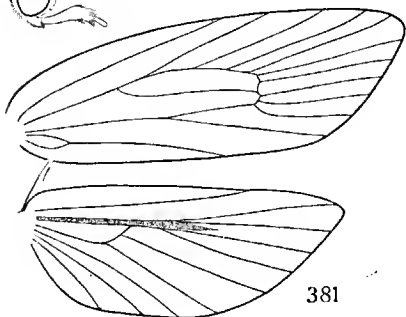
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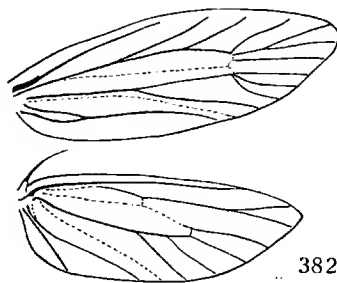
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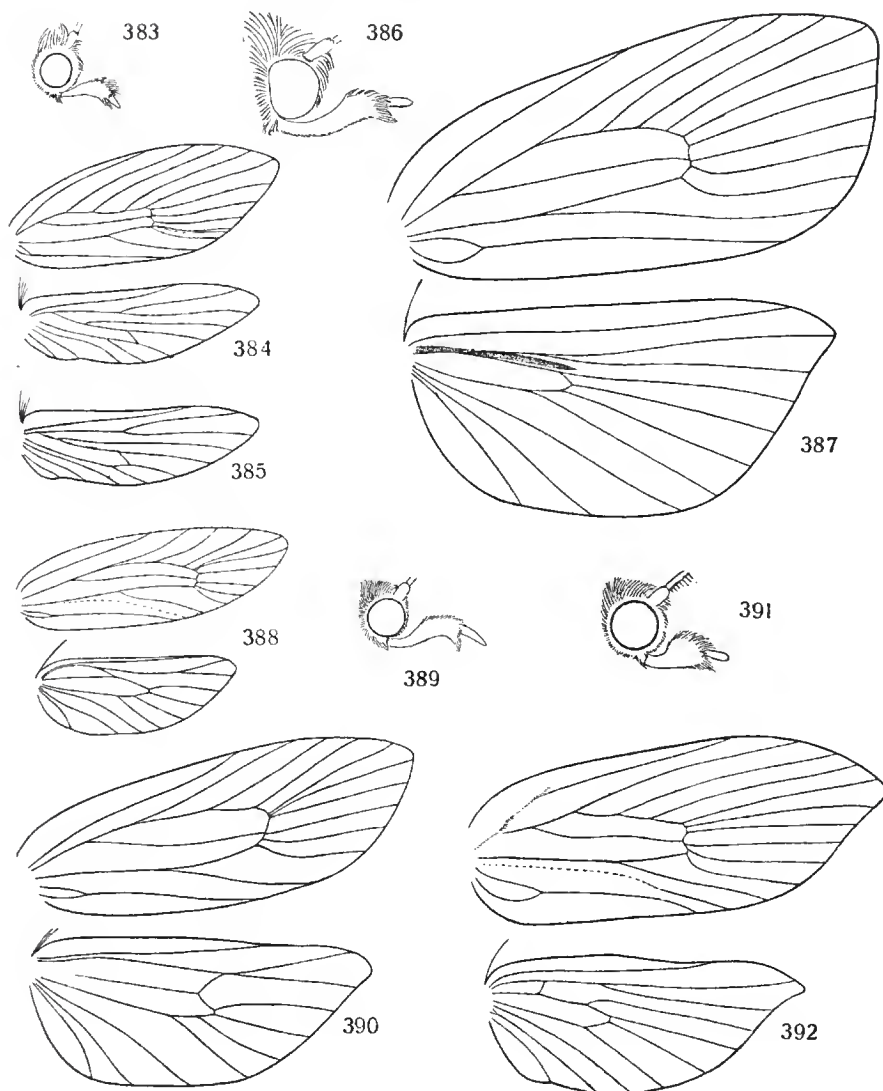
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Neuration and heads of Schoenotenidae. Fig. 374: *Schoenotenes dimorpha* spec. nov., male, head. Fig. 375: *idem*, neuration. Fig. 376: *Metachorista ursula* MEYRICK, female, head. Fig. 377: *idem*, neuration. Fig. 378: *Choristenes melitoptila* (MEYRICK), gen. nov., male, head. Fig. 379: *idem*, wing neuration. Fig. 380: *Stenotenes incudis* gen., spec. nov., male, head. Fig. 381: *idem*, wing neuration. Fig. 382: *Paraselenia thamnias* MEYRICK, male, wing neuration (H. ROUGH delin.; published by the courtesy of the Trustees of the British Museum, Natural History). Fig. 383: *Diactenitis thaurima* DIAKONOFF, female, head. Fig. 384: *idem*, neuration. Fig. 385: *D. plumula* DIAKONOFF, female, neuration of hind wing (both last figures after DIAKONOFF, 1939). Fig. 386: *Oligotenes polylampes*, gen., spec. nov., head, male. Fig. 387: *idem*, neuration. Fig. 388: *Proselena annosana* MEYRICK, male, wing neuration. Fig. 389: *Palaeotoma styphelana* MEYRICK, female, head. Fig. 390: *idem*, neuration. Fig. 391: *Proactenitis tricomma* DIAKONOFF, male, head. Fig. 392: *idem*, neuration (both figures after DIAKONOFF, 1941).



Genitalia of *Proselena annosana* MEYRICK (figs. 394, 399).

Tegumen small, narrowed. Uncus small, hook slender, simple. Socius small, pending. Gnathos moderate, normal, hook slender. Transtilla extremely strong: an erect-quadrate plate with rounded, finely dentate labides, and a long, strong, spike-like porrect projection at each side of lower edge of this plate. Valva very small, membranous, strongly narrowed, fine-bristled, sacculus strong, sclerotized, ending in an acute thorn. Vinculum rather large, chitinous, subquadrate. Aedoeagus long, curved in middle, apically becoming narrow and strongly sclerotized, ending in a large spike. Cornuti not perceptible. (Slide No. 751 D.)

Limen a strong straight transverse band, dilated laterally, and with a longitudinal fold. Ostium very wide. Colliculum strong, subcylindrical, dilated above, rather long, irregularly plicate below. Ductus bursae short. Bursa copulatrix ovoid. Signum, a moderate smooth and acute tooth. Eighth tergite sclerotized. Ovipositor lobe subtriangular, rather tortricoid. (Slide No. 752 D.)

Genitalia of *Proselena niphostrota* MEYRICK (figs. 395, 396).

Tegumen and uncus very much like those in the preceding species, somewhat broader. Socius longer. Gnathos broader, but weak, angulate, not pending. Transtilla slender, a transverse, V-shaped moderate band. Valva larger, less narrowed, sacculus little chitinised, ending in a blunt point. Vinculum strong, erect-rectangular. Aedocagus chitinous, base bulbate, apex slightly curved. (Slide No. 753 D.)

Limen a broad, slightly curved transverse band, somewhat plicate below. Colliculum slender, elongate, narrowed above. Ductus bursae narrow, long. Bursa copulatrix subspheroid, simple. Eighth tergite elongate. Ovipositor lobe elongate, rather narrow, lower fourth narrowed and curved: schoenoteniform. (Slide No. 754 D.)

Nearly allied to the following, this genus is a specialised off-shoot of the *Schoenotenes* branch. There are two small Australian and two closely allied New Zealand species.

The transtilla in *Proselena unnosana* is of the same type as in *Paraselena thamnias*, and shows a correlation with the genus *Stenotenes*.

Mr BRADLEY, of the British Museum, kindly sent us specimens of both the above mentioned species for study.

#### *Proselena* spec.

Iebèlè Camp, 2250 m, November—December, 1938. One specimen, almost entirely denuded. The neuration shows all the peculiar characters of the genus, but the size is exceptionally large: 24 mm.

#### *Paraselena* MEYRICK, 1910 (fig. 382)

*Paraselena* MEYRICK, 1910, Proc. Linn. Soc. N.S. Wales, vol. 35, p. 164. Lepid. Catal., fasc. 10, p. 1, 1912. Gener. Ins., fasc. 149, p. 7, pl. 1, fig. 13, 1913. FLETCHER, Mem. Agr. Ind., Ent., vol. 11, p. 164, 1929. DIAKONOFF, Zool. Meded. Mus. Leiden, vol. 31, p. 170, 1952.

The original description is as follows: "Antennae in male moderately ciliated. Palpi moderate, porrected, second joint dilated with rough scales above and beneath, terminal short. Thorax smooth. Forewings with 7 and 8 stalked, 7 to termen. Hindwings with 3 from much before angle, remote and nearly equidistant from 2 and 4, 4 from angle, 5 rather approximated to 4 at base, transverse vein very oblique, 6 and 7 long-stalked".

Genotype *Paraselenia thamnas* MEYRICK, 1910 (Australia).

We had no opportunity to study representatives of this genus, but Mr. BRADLEY kindly provided us with a sketch of the neuriation of the unique type specimen of *P. thamnas* (fig. 382), and with photographs of the genitalia of the type, a male (fig. 393), here reproduced by the courtesy of the Trustees of the British Museum.

After studying this sketch we can add the following particulars to the MEYRICK's description of the genus. Fore wing with 1b furcate along basal  $\frac{1}{3}$ , 2 from middle, 3-5 closely approximated from angle, 10 from  $\frac{3}{4}$ , 11 from about middle of cell, parting vein from  $\frac{1}{4}$  of upper edge of cell to between bases of 5 and 6. Hind wing with 2 from about  $\frac{2}{3}$ , transverse vein weak, 6 and 7 long-stalked, from base, connected by a transverse bar with two-thirds of the distance of upper edge of cell between base of wing and base of vein 5; 8 strong, from base.

The genitalia, as far as we can read the photograph (fig. 393), may be described as follows. Tegumen broad, triangular. Uncus with a triangular base, ending in a slender simple hook. (Socius not perceptible.) Gnathos, an angularly bent, pending rod. Transtilla extremely strong: a transverse broad band, with upper edge slightly excavate in middle and short-dentate, lower edge with two strong, little curved pending appendages. Valva with a slightly curved cucullus, sacculus  $\frac{1}{2}$ , strong, ending in a transverse long spike. Aedoeagus moderately bent in middle, ending in an acute transverse hook. Cornuti a slender dentate band. (Genit. Slide No. 6742 B.M., GATES CLARKE *fecit.*) The peculiar sclerotized transtilla strongly resembles that in *Oligotenes chrysentes* spec. nov. (cf. fig. 400), and that in *Proselena annosuna*.



Fig. 393:

*Paraselenia thamnas* MEYRICK, lectotype, male genitalia. (By the courtesy of the Trustees of the British Museum, Natural History. Phot. No. 6742 B.M.)

### **Palaeotoma MEYRICK, 1881 (figs. 389, 390)**

*Palaeotoma* MEYRICK, 1881, Proc. Linn. Soc. N.S. Wales, vol. 6, p. 422; ibidem, vol. 35, p. 293, 1910. Lepid. Catal., vol. 10, p. 71, 1912. Gener. Ins., fasc. 149, pp. 66-67, 1913. FLETCHER, Mem. Agr. Ind., Ent., vol. 11, p. 159, 1929. DIAKONOFF, Zool. Meded. Mus. Leiden, vol. 31, p. 170, 1952.

Head with appressed scales. Ocellus posterior. Proboscis moderate. Antenna strongly ciliate in male. Palpus long, porrect, median segment arched upwards, with dense, rather appressed scales, terminal segment in male moderate, in female long. Thorax without crest. Fore wing without costal fold, with tufts of scales on surface, 1b furcate at base, 2 from slightly beyond middle of lower edge of cell, 3 from angle, 7 separate, to termen, 8 approximated to 7, 11 from somewhat before

middle of cell. Hind wing without cubital pecten, 2 from  $\frac{3}{4}$ , 3 and 4 remote, nearly parallel, 4 from angle, 5 approximated to 4 at base, 6 and 7 short-stalked.

Genotype *Palacotoma styphelana* MEYRICK, 1881 (Australia).

Perhaps a development of *Schoenotenes*, also correlated with *Oligotenes*. The shape of the palpi is unique in the family. The genus contains a single species, occurring all over Australia.

### **Oligotenes** gen. nov. (figs. 386, 387)

$\delta\lambda\acute{\iota}\gamma\omicron\varsigma$  = little,  $\tau\epsilon\acute{\iota}\nu\omega$  = to tighten

Head densely covered with appressed scales, roughish on vertex, face smooth, side tufts small. Ocellus minute, posterior. Proboscis rather short. Antenna with scape somewhat thickened with dense smoothly appressed scales, flagellum moderately ciliate in male, ciliations under 1, short-ciliate in female. Labial palpus long, subascending or ascending; median segment sinuate, rather slender, roughish along edges, little dilated towards apex with projecting scales above and beneath; terminal segment about  $\frac{1}{4}$ , porrect, slender, slightly clavate, subobtuse. Maxillary palpus absent. Thorax with a posterior crest. Fore wing without costal fold, with tufts of raised scales, normally scaled below, cell elongate, gradually narrowed and rounded posteriorly, parting vein little sinuate, from before halfway between base of wing and base of 11 to above base of 5; 1b furcate to before one-fourth, 2 from slightly before middle of cell, 3 from angle, 3—4 remote, 4 approximated to 5, 5 and 6 parallel, 7 separate, from angle, to termen, 8 remote from 7, 8—10 almost equidistant, 10 from before  $\frac{3}{4}$ , 11 from slightly before middle. Hind wing without cubital pecten, normally scaled below, broadly semioval, slightly over 1, cilia  $\frac{1}{6}$ ; cell narrow, under  $\frac{1}{2}$ , a short compressed fold parallel to upper edge of cell (dotted in figure); 2 from before  $\frac{4}{5}$ , widely remote from 3, 3—5 remote, 3 from before angle, 4 from angle, 5 parallel, 6 and 7 short-stalked, stalk long, from  $\frac{1}{3}$  between base and 5, closing vein extremely oblique.

Genotype: *Oligotenes polylampes* spec. nov., male, female.

Apparently a development of *Schoenotenes* MEYRICK, structurally very near to *Proselena* MEYRICK; also allied to *Stenotenes* gen. nov., and to *Metachorista* MEYRICK.

### Key to the species of *Oligotenes*

1. A strongly inwardly angulate transverse fascia from  $\frac{3}{4}$  of costa to dorsum before tornus . . . . . *polylampes* spec. nov.  
A dot on  $\frac{3}{4}$  of costa, and a strongly hooked discal mark below this . . . .  
. . . . . *chrysoteuches* spec. nov.

### **Oligotenes polylampes** spec. nov. (figs. 386, 387, 401, 403)

$\pi\omicron\lambda\upsilon\lambda\alpha\mu\pi\acute{\eta}\varsigma$  = strongly shining

♂ 21—22 mm, ♀ 24—25 mm. Head white, in male touched with pale ochreous, face in female suffused with ochreous-yellow. Antenna pale fuscous, blackish towards base of flagellum, scape pale ochreous, in male

blackish towards apex above. Palpus dark fuscous-brown, in male terminal segment with white tip, in female median segment mixed with white above posteriorly. Thorax whitish-ochreous mixed with bright ochreous-yellow, suffused anteriorly with dark fuscous-brown or brownish, a fuscous-brown central spot, posterior crest pale whitish-ochreous. Abdomen whitish-fuscous, in male valva with a dark fuscous round lateral spot, in female venter with a lateral streak and with pregenital segment dark fuscous. Legs pale ochreous, anterior and median tibia and tarsus dark fuscous, pale-ringed, median leg with fuscous bands. Fore wing in male elongate-subovate, in female elongate-subtriangular, dilated; costa in male curved anteriorly, straight in middle, slightly bent before apex; costa in female more curved anteriorly, straight posteriorly; apex subobtusate, termen gently rounded, little oblique. Whitish, in male densely suffused with bright ochreous-yellow; in female suffused and retinate with less bright ochreous, slightly tinged greyish posteriorly; markings in male rather dark fuscous, in female brown, these markings slightly irrorated with blackish-brown towards dorsum, dotted with blackish along costa. A large triangular patch on base of costa occupying more than  $\frac{1}{4}$  of wing, top of patch pointing towards middle of disc, reaching to below fold, lower edge of patch with a row of dark brown dots, posterior edge with a slight excavation above middle; ground colour forming a streak along base of dorsum to base of wing below costa; a moderate regularly semioval spot on middle of costa, slightly larger and more erect in male, preceded and followed by a small costal dot, in male ground colour between this and basal patch whitish; a large prostrate V-shaped patch in middle of disc, with top occupying posterior half of cell, slightly rounded anteriorly, arms of the V broad, gradually curved, in male narrowly anastomosing with preceding costal mark; upper arm running to  $\frac{3}{4}$  of costa, slightly triangularly dilated there, with posterior edge bearing a short angulate projection just beyond discal tuft in male, slightly angulate beyond this tuft in female; lower arm of the V-shaped patch curved downward to dorsum before tornus, in male rather suffused, in female broader, irrorated with blackish-brown; a large erect-ovate well-defined preterminal patch, with base abruptly narrowed, acute, on termen above tornus, top of this patch rounded or with a minute projection anteriorly, in male almost touching preceding mark below costa; two small dots on costa before apex, ultimate one almost apical; termen with a dentate marginal dark fuscous streak, less distinct in female; plical tuft whitish anteriorly, brown posteriorly, discal white; ground colour along margins of markings less suffused or retinate with ochreous-yellow, markings appearing whitish-edged. Cilia fuscous, basal half in male with a row of interconnected blackish-fuscous blotches, base whitish fuscous, basal half of cilia in female dark fuscous with a whitish basal line. Hind wing whitish, faintly marbled posteriorly with pale fuscous; cilia pale fuscous-whitish, with an interrupted pale fuscous antemedian shade.



Tegumen narrow, elongate. Uncus strong, hooked in middle, hook with truncate short-bristled top, strongly dilated so as to form a large pending lobe at each side. Socius elongate, marginal. Gnathos short, almost paired: arms angulate and dilated below middle, ending in a curved point, connected with each other by a transverse membranous band. Transtilla strong, slightly bent. Valva ovate, costa strongly haired, apex obtusely pointed, a small discal projection below apex, cucullus strongly oblique, sacculus narrow,  $\frac{1}{3}$ , top projecting. Aedoeagus moderate, pistol-shaped. Cornuti, two rows of short teeth. Anellus, a circular plate (Slide No. 732 D, holotype).

Limen, a strong sclerotized transverse band, upper edge with two pocket-like folds ventrally. Ostium narrow, tubular below, with a strong sclerotized piece at one side. Colliculum indicated as a subcylindrical, finely scobinate portion. Ductus bursae narrow. Bursa simple. Eighth segment forming a swollen triangular collar dorsally, plicate ventrally, fine-haired. Ovipositor lobe narrow. (Slide No. 734 D, allotype).

Iebèlè Camp, 2250 m. November 28, 1938 (holotype, male), November 7, 1938 (allotype, female). Two males, one female. Rattan Camp, 1200 m, February—March, 1939. One female.

**Oligotenes chrysoteuches** spec. nov. (figs. 400, 406)

$\chi\rho\upsilon\sigma\sigma\tau\epsilon\nu\chi\acute{\eta}\varsigma$  = in golden armour

♂ 21—24 mm, ♀ 24—26 mm. Head and thorax pale ochreous, mixed with ochreous-yellow. Antenna dark fuscous in male, paler in female, scape pale ochreous. Palpus dark fuscous, terminal segment pale ochreous, more or less mixed with fuscous. Abdomen whitish, tinged brownish, in male with a lateral streak and the pregenital ventrite: blackish. Legs pale ochreous-brownish, anterior tibia and tarsus, and median tibia dark fuscous, pale-ringed, median tarsus with a basal dark fuscous ring. Fore wing elongate-subtriangular, broader in male; costa moderately curved anteriorly, less so posteriorly, in male rather straight in middle; apex subobtuse, termen gently sinuate, moderately oblique, more so in female. Pale whitish-yellowish, in male whitish anteriorly, irrorated, retinate and partially suffused, with bright ochreous-yellow; markings bright ochreous, and greyish-brown, mixed with brownish-black. A large, triangular patch on base of costa except base of wing below costa, reaching slightly below fold: deep yellowish-ochreous; a narrow oblique transverse line from costa beyond base, a suffusion along fold, and a transverse mark along posterior edge, brownish-black. last mentioned mark strongly dilated below costa so as to form an erect-ovate dark patch, with posterior edge slightly serrate; a moderate, semiovate, slightly outwardly oblique spot on costa before middle, reaching to upper edge of cell: yellowish-ochreous, edged and parted by blackish irroration; a greyish-brown sickle-shaped mark in disc, beginning with a blackish point just below middle of fold,



running obliquely to upper  $\frac{1}{4}$  of disc at  $\frac{2}{3}$ , gradually strongly curved downward, thence curved around end of cell and discal tuft, running to lower angle of cell, slightly thickened above cell; anterior angle of this mark with a less distinct straight branch along more than third fourth of fold, in male dissolved in a few dark brown dots; a moderate semi-circular costal patch, smaller than median costal, greyish brown, marked on costa with an ochreous dot, costa between markings with small blackish-brown dots; a slender, well-defined preterminal streak from dorsum just before tornus, slightly outwardly concave below, almost straight above and more oblique than termen, to before termination of vein 7; a small rounded spot of brownish irroration in middle of upper half of cell; a row of fine marginal brownish dots along dorsum. Cilia whitish, apical half mixed with grey, a basal row of jet-black dots and blackish bars opposite costal markings. Hind wing glossy whitish, slightly smoky with faint greyish marbling; cilia whitish, an antemedian row of blackish marks.

Tegumen and uncus strong, much like those in preceding species, top of uncus more dilated, less truncate. Socius smaller. Gnathos with arms angularly dilated in middle, narrow posteriorly, connected with each other by a membranous transverse band. Transtilla strong, peculiarly built: an ovate rising plate at each side, connected below by a narrow transverse rod, which has a long acute appendix at each extremity. Valva broad, ovate, costa strongly haired, subapical discal prominence larger, sacculus short, with a curved acute point. Aedoeagus as in preceding. Cornuti, two rows of short teeth and two strong spikes. (Slide No. 733 D, holotype).

Limen, a strong transverse band dilated laterally, upper edge with a convex cap in middle, which is deeply incised ventrally, lower edge of limen excavate in middle. Ostium with two small strong knobs ventrally. Colliculum rather long, slender, tubular. Ductus bursae narrow. Bursa copulatrix erect-ovoid, simple. Eighth tergite forming a semioval swollen collar. Ovipositor with slender lobes, a smooth rounded lateral plate below each lobe. (Slide No. 735 D, allotype).

Moss Forest Camp, 2800 m, October 18, 1938 (holotype, male), October 13, 1938 (allotype, female), October 9—November 5, 1938. Three males, two females. Allied to preceding.

### **Stenotenes** gen. nov. (fig. 380, 381)

*στενός* = narrow, *τείνω* = to tighten

Head with appressed scales, side tufts large, raised, spreading. Ocellus absent. Proboscis short. Antenna ciliated in male, ciliations  $\frac{1}{2}$ . Labial palpus moderately long, porrect, median segment slightly sinuate, rather slender, with closely appressed scales, posterior half of median segment dilated, rough above, with a moderate terminal tuft beneath, terminal

segment moderately long, slender, obtuse. Maxillary palpus absent. Fore wing with or without costal fold in male, with raised tufts of scales and fine ridges of scales along veins above, thinly scaled beneath, veins fringed with scales; cell much dilated beyond middle, narrowed again posteriorly; 1b fureate, to about  $\frac{1}{4}$ , 2 from beyond  $\frac{1}{2}$ , 3 from angle, 3—5 separate, equidistant, 5—7 tolerably parallel, 7 separate, from angle, to termen, 9 closer to 8 than to 10, 10 from beyond  $\frac{2}{3}$ , 11 from middle; parting vein sinuate, from upper edge of cell before 11, to above base of 5. Hind wing without eubital pecten, elongate-semiovate, subaente, under 1, cilia  $\frac{1}{2}$ ; semipellucient, veins fringed with scales; cell very short:  $\frac{1}{3}$ , dilated and rounded posteriorly, a moderate, compressed longitudinal fold along upper edge of cell, concealing this edge, reaching to  $\frac{3}{4}$  of wing (dotted in figure); 2 from angle, 4 and 5 short-stalked, 2, 3 and stalk of 4 and 5 remote and equidistant, 6 and 7 stalked, stalk apparently originating from base of wing.

Genotype: *Stenotenes incudis* spec. nov., male.

Possibly a development of *Schoenotenes* MEYRICK, with remarkable venation of hind wing.

#### Key to the species of *Stenotenes*

1. A trapezoid blotch on dorsum before middle . . . . . *incudis* spec. nov.
- A triangular patch on middle of costa . . . . . *acroptycha* spec. nov.

#### *Stenotenes acroptycha* spec. nov. (fig. 402)

ἄκρον = margin, πτυχή = a fold

♂ 16 mm. Head and thorax white, the latter mixed with pale ochreous, shoulder with black transverse marks. Antenna with scape white, flagellum irrorated with black. (Palpi broken). Abdomen white, touched with ochreous. Legs white, tibia and tarsus banded with black, posterior leg entirely white, anterior external spur with a black band. Fore wing elongate-triangular, dilated; costa with a moderately broad fold to beyond middle, gently curved and slightly prominent along fold, almost straight posteriorly; apex pointed, termen slightly sinuate, oblique. White, evenly retinate and transversely strigulated with pale golden-ochreous; a raised scale-tuft on middle of fold; costa suffused with light chestnut-brown; base of costa suffused with black; two transverse deep brown bands edged with black, in middle and before end of fold respectively, alternating with blackish transverse strigulae; costa beyond fold denser suffused with pale golden-ochreous, with four black dots alternating with minute points; costal patch moderate, elongate-semiovate, scarcely reaching dorsum, light chestnut-brown, edged with black; a black bent fascia in middle of wing forming a large triangle, top reaching below fold, suffused with chestnut-brown, angles corresponding with median band on fold and with first black costal dot beyond this, respectively, centre suffused with black

and brownish; a rounded greyish patch above tornus, and a transversely ovate light chestnut-brown patch before upper half of termen, both edged with sparse black dots along tornus and along lower part of termen. Cilia white, except in tornus with greyish tips and an antemedian row of black patches. Hind wing and cilia white.

Tegumen moderately broad, short. Uncus moderate, with broad base, strongly narrowed above, top rounded, with a slender beak-shaped ventral projection. Gnathos rather short, strong, hook gradually curved, concave, bristled towards top. Transtilla slender, U-shaped. Valva short, costa distinct, strongly curved, with a separate top, which is curved downward, and bears a group of peculiar short, and thick pencil-like bristles; cucullus narrowed, with rounded top, sacculus weak, harpe elongate, bristled. Aedoeagus angulate, with broad basal, and narrow apical half. Anellus broad. Cornuti, a long patch of short bristles. (Slide No. 651 D).

Moss Forest Camp, five km northeast of Lake Habbema, 2800 m, October 25, 1938. One specimen.

*Stenotenes incudis* spec. nov. (figs. 380, 381, 397)

♂ 16 mm. Head, thorax and abdomen white, touched with yellowish-ochreous. Palpus fuscous-blackish, apex of median segment white. Legs whitish, anterior tibia and tarsus suffused and dotted with blackish. Fore wing elongate-subovate, costa gradually moderately curved anteriorly, less curved posteriorly; apex subobtusate, termen gently rounded, oblique. White, finely retinate with light ochreous-olive, markings light ochreous-olive, dark brown and blackish-fuscous. Costa with a row of subtriangular blackish-fuscous dots, tolerably equal in size, two dots beyond  $\frac{2}{5}$  close together, connected by fuscous suffusion; a large trapezoid spot on dorsum from about  $\frac{1}{5}$  to beyond  $\frac{3}{5}$ , reaching above middle of disc, with anterior edge rather inwardly oblique, incised above fold, posterior edge almost vertical, slightly concave, upper edge concave, with short projections at angles; upper half of this spot dark brown, lower half formed by coarse transverse dark brown strigulation, interconnected along dorsum; olive retination, forming broader, more or less distinct transverse streaks along costa, originating from costal dots; an oblique wedge-shaped olive patch from connected pair of costal dots mentioned above, not reaching upper posterior angle of dorsal patch, with edges slightly dotted with dark brown; this oblique costal patch followed by a small vertical patch in disc below costa, and by a much suffused slightly oblique discal blotch beyond vein, olive, slightly suffused with brown, connected by ill-defined olive strigulae with two vertical dark brown marks on dorsum before tornus, posterior mark largest; a tuft of white raised scales on lower angle of cell; costal patch small, irregular, subquadrate, at  $\frac{3}{4}$  of costa: greyish-olive, edged with dark brown below; a moderate elongate-ovate transverse preterminal patch: olive, edged and retinate with dark brown, almost

connected with costa by a curved olive streak from its upper extremity; two transverse dark brown lines: in and before apex; transverse olive retination between markings more distinct on posterior half of wing. Cilia white, with a faint antemedian row of brownish specks. Hind wing and cilia white.

Tegumen small, elongate. Ucnus very small, with a moderate, slightly curved hook. Socini, a series of four small bristles. Gnathos bent, apical half rising, triangular, a small tooth at each side, top dentate. Transtilla, a short linear band. Valva intricate: costa separate, ending in a club which is covered with modified pencil-shaped bristles, cucullus weak, moderate, subacute, sacculus  $\frac{2}{3}$ , top dilated, with a long thorn above and one longer below. Vinculum quadrate. Aedoeagus very long, upper rim of orifice erected in a long curved hook, slightly scobinate along one side. Cornuti, a patch of short curved spines. (Slide No. 663 D).

Iebèlè Camp, 2250 m, November—December, 1938. One specimen.

### **Metachorista** MEYRICK, 1938 (figs. 376, 377)

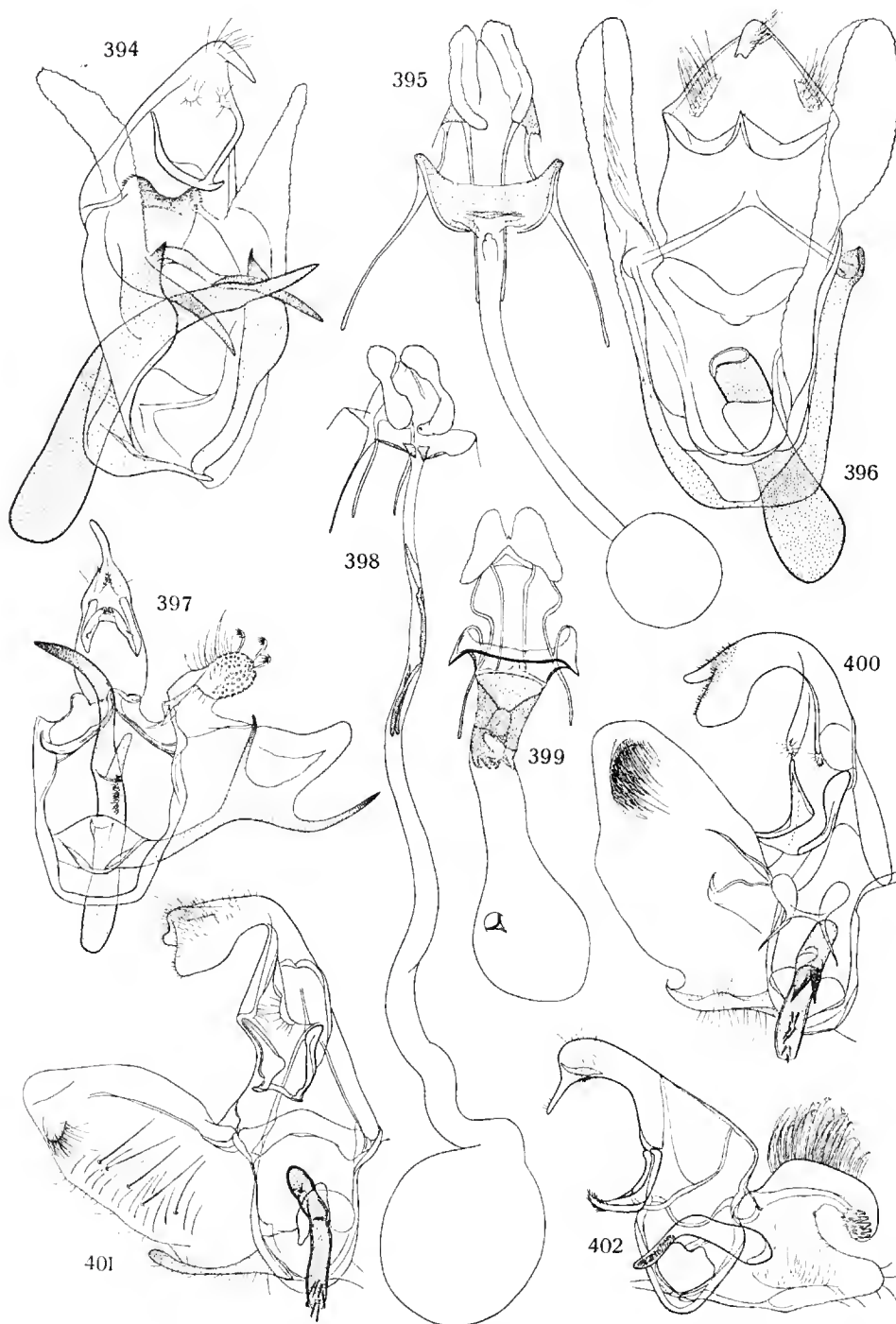
*Metachorista* MEYRICK, 1938, Trans. Ent. Soc. Lond., vol. 87, p. 510. DIAKONOFF, Zool. Med. Mus. Leiden, vol. 31, p. 170, 1952.

Head with dense, appressed scales, roughish on vertex, side tufts broad, closely appressed. Ocellus absent. Proboscis short. Antenna minutely ciliate and serrulate in male, minutely pubescent, less serrulate in female. Labial palpus moderate, subascending or porrect; median segment clothed with smoothly appressed scales, more or less expanded towards apex, roughish above, with a small porrect tuft beneath; terminal segment moderate or rather long, obtuse, slender and smooth in male, slightly thickened in female. Maxillary palpus vestigial. Thorax with a posterior crest. Fore wing without costal fold, with tufts of raised scales above, smoothly scaled below, veins raised, narrowly fringed with smoothly appressed scales; cell narrow, narrowed posteriorly, truncate, closing vein sinuate, from  $\frac{2}{3}$  between base and vein 11 to above base of 5; 1b furcate to about  $\frac{1}{5}$ , 2 from middle of cell, 3 from angle, 3—5 tolerably equidistant, 7 separate, from angle, to termen, 7 and 8 approximated at base, 8—10 almost equidistant, 10 from  $\frac{3}{4}$ , 11 from  $\frac{2}{3}$  in male, from middle in female. Hind wing without cubital pecten, smoothly scaled below, veins finely fringed with appressed rows of scales; elongate-semiovate, somewhat over 1, cilia  $2\frac{1}{2}$ ; cell rather narrow, acutely pointed posteriorly, 2 from  $\frac{2}{3}$ , 2—4 widely remote, 3 from before angle halfway between 2 and 4, 4 from angle, closely approximated or connate, seldom short-stalked with 5, closing vein oblique, 6 and 7 long-stalked, stalk from halfway between base and 5.

Genotype: *Metachorista ursula* MEYRICK, 1938, female.

A development of *Schoenotenes* MEYRICK, characterised by neurulation, narrow wings and small size. Mistaken by MEYRICK for an Eucosmid genus (and placed by him in the vicinity of *Herpystis*).





Genitalia of Schoenotenidae. Fig. 394: *Proselena annosana* MEYRICK, male. Fig. 395: *Proselena niphostrota* MEYRICK, female. Fig. 396: *idem*, male. Fig. 397: *Stenotenes incudis* spec. nov., male. Fig. 398: *Choristenes melitoptila* (MEYRICK), female. Fig. 399: *Proselena annosana* MEYRICK, female. Fig. 400: *Oligotenes chrysoteuches* spec. nov., male. Fig. 401: *O. polylampes* spec. nov., male. Fig. 402: *Stenotenes acroptycha* spec. nov., male.



Key to the species of *Metachorista*

1. Markings jet-black, partially edged with orange-ochreous . . . . . 2  
 Markings not thus . . . . . 3
2. Ground colour whitish, tinged pale greenish-yellow. Fore wing broad, subovate  
 . . . . . *hierophantis* spec. nov.  
 Ground colour white. Fore wing rather narrow, subtriangular, pointed . . .  
 . . . . . *megalophrys* spec. nov.
3. A conspicuous dark crescentic spot in disc, or a narrow rectangularly bent fascia  
 with extremities well, or not reaching costa . . . . . 4  
 Discal markings indefinite, or a weak sinuate fascia present, running from middle  
 of cell to tornus . . . . . *mesata* spec. nov.
4. A distinct small spot in disc above base of dorsum, dark edged and slightly  
 indented above . . . . . *ursula* MEYRICK  
 Spot at base of dorsum marginal and elongate, or absent . . . . . 5
5. Ground colour light ochreous; an angulate blackish fascia on upper half of  
 wing, with both extremities reaching costa . . . . . *deltophora* spec. nov.  
 Ground colour whitish, strigulated with pale ochreous or irrorated with ochreous-  
 greyish or ochreous-fuscous . . . . . 6
6. An angulate blackish streak on upper half of wing, only with its posterior arm  
 reaching costa, bent, often connected with dorsum by a greyish suffusion . .  
 . . . . . *refracta* spec. nov.  
 A crescentic discal mark . . . . . 7
7. Costal dots triangular, black, equal . . . . . *austera* spec. nov.  
 Costal dots rounded, suffused greyish-fuscous below, that before middle of  
 costa largest . . . . . *loepa* spec. nov.

*Metachorista hierophantis* spec. nov. (figs. 404, 405, 412)

*ἱεροφάντις* = a priestess

♂ 20 mm. Head white, collar black. Antenna black, cilia white, scape white above. Palpus black (terminal segment missing). Thorax black, irrorated with pale yellow-whitish, edged posteriorly except at apex with pale yellow-whitish, tegula pale yellowish with anterior half orange, shoulder black. Abdomen pale fuscous-whitish, venter dark fuscous, a row of lateral and of ventral pale ochreous-whitish short bands, valva dark fuscous, edged whitish. Legs: anterior and median leg black, whitish at inner side, posterior leg whitish, densely suffused with grey and blackish. Fore wing elongate-subovate, moderately broad, dilated; costa considerably curved anteriorly, less curved towards apex, faintly concave in middle, slightly projecting at  $\frac{1}{4}$  and  $\frac{3}{4}$ ; apex subacute, termen hardly sinuate, oblique. Pale sulphur-whitish, markings black mixed with orange and lilac-fulvous. A semioval patch on basal  $\frac{1}{5}$  of costa, with an orange dot in its middle just below costa, centred with black; a moderate orange streak along  $\frac{2}{3}$  of lower edge of this patch; patch connected below posteriorly with a transverse moderate oblique second patch reaching to fold, with upper half triangularly dilated, slightly bifid above, lower part rounded; this second patch mixed above middle and below with orange; an elongate-semioval moderate patch on costa before middle, interrupted

in middle and before posterior end with ground colour, mixed below with orange, connected with anterior branch of a strong, Y-shaped discal mark, reaching to vein 1b, mixed and interrupted above middle by orange scales; space between this and preceding transverse mark almost entirely filled with slightly raised lilac-fulvous scales from costa to fold; posterior arm of Y-shaped streak connected above with a transverse curved patch, encircling posterior edge of cell, mixed below with orange, and connected with an erect-rectangular patch on dorsum just before tornus that extends to below vein 4; the last mentioned patch orange, edged with black, which colour merges above posteriorly in an invert-U-shaped black mark on termen above tornus; curve of the U thickened, centred with orange, arms arising from terminations of veins 2 and 3, respectively, top continued by a broad black blotch to vein 7; a small black U-shaped mark above vein 1b at  $\frac{3}{5}$ ; a semioval dot on  $\frac{2}{3}$  of costa, followed by a rounded-triangular moderate costal patch reaching to below vein 8, with a small costal dot of ground colour in its middle, traversed by an orange streak along vein 10, which reaches anteriorly to cell; termen with black dots on terminations of veins, apex slightly mixed with orange. Cilia white (damaged), basal half with black bars. Hind wing white, touched with greyish-fuscous, faintly marbled and transversely strigulated with dark grey posteriorly, cilia whitish, a faint row of small greyish antemedian dots.

Tegumen and uncus strongly sclerotized, latter curved, rather short, top strongly dilated, emarginate, short-bristled. Socius moderate, marginal. Gnathos rather short, arms curved, narrow, dilated towards top, connected with each other by a narrow membraneous ridge. Transtilla strong, broad, triangular. Valva ovate, costa thickened posteriorly, densely haired. Saccus under  $\frac{1}{2}$ , convex; harpe, an oblique brush of bristles. Aedoeagus pistol-shaped, orifice obliquely truncate. Cornuti, a double row of short teeth. (Slide No. 740 D., holotype).

♀ 22.5 mm. Head pale sulphur-yellow. Antenna black, scape pale sulphur-yellow. Palpus rather long, slender, black, terminal segment whitish. Thorax black, slightly suffused with deep brown posteriorly, mixed with sparse pale yellow scales in middle and posteriorly, posterior edge, except apex and tegula, pale sulphur-yellow. Abdomen light brown. Legs whitish, anterior and median legs densely suffused with blackish, posterior leg with knee and a band at base of tarsus black. Fore wing elongate-subovate, dilated; costa little curved towards extremities, straight in middle; apex subacute, termen almost straight, hardly convex in middle, oblique. Pale sulphur-yellow, markings black, slightly mixed along edge with orange-fulvous. Base of costal edge black, a wedge-shaped, oblique spot with truncate top on base of costa reaching to below fold, and a small suffused elongate dot on dorsum below top of preceding; an oblique rather narrow transverse streak from  $\frac{1}{5}$  of costa, with anterior edge slightly concave, a narrow angulate projection from middle of posterior edge; this streak is bent on fold, lower part parallel to fold to

about  $\frac{2}{5}$  of wing length, end truncate; an elongate-rectangular, rather narrow patch on costa before middle, with two yellowish costal points in middle, followed by a semioval small dot at  $\frac{2}{3}$ , and a rounded-triangular moderate costal patch slightly beyond  $\frac{3}{4}$ ; this patch somewhat outwardly oblique, with top reaching to below vein 8, middle of patch with a yellowish point on costa, a  $\square$ -shaped mark in middle, open posteriorly, arms dilated, upper broader, excavate beyond base; this mark slightly filled with orange-fulvous scales, and connected below by orange-fulvous irroration with a streak along central half of dorsum, which is slightly suffused posteriorly and interrupted by ground colour; upper posterior angle of the above mentioned discal mark connected with a moderately curved transverse streak, running around end of cell to dorsum before tornus; anterior edge of this streak regularly concave, posterior crenulate, with two rounded projections along its upper part, a subtriangular one on lower part above dorsum, separated by a triangular incision; two small elongate dots on costa before apex, a subtriangular dot in tornus; a vertical erect mark from termen above tornus to vein 7, narrowed above; a small marginal streak along termen below apex, preceded by sparse orange-fulvous irroration; elsewhere terminal edge mixed with orange-fulvous, with minute black points on terminations of veins 4 and 5; plical tuft and second discal tuft pale sulphur-yellow, projecting over black markings. Cilia whitish, touched with pale yellow, a narrow interrupted black antemedian line, basal half with black bars and a black patch, this patch corresponding with subapical marginal mark; three blackish bars extending over entire length of cilia opposite two posterior costal dots and just below apex, respectively. Hind wing white, tinged pale fuscous posteriorly, slightly marbled with greyish, a much suffused interrupted marginal fascia along termen; cilia white with a subbasal row of faint greyish dots, barred with grey along costa.

Limén, a strong transverse band, lower edge emarginate, upper with two curved rising projections towards middle. Seventh segment forming a strong ring, eighth a moderate collar. Ovipositor lobe elongate-reniform, lower half thickened, upper half with a transverse oblique haired pad dorsally. Ostium simple. Ductus bursae with a moderate curved colliculum. Bursa copulatrix ovoid. Signum, a short hollow tooth (Slide No. 741 D, allotype).

Moss Forest Camp, five km northeast of Lake Habbema, 2800 m, November 2, 1939 (holotype, male), October 18, 1938 (allotype, female). One male, one female. Male genitalia show a correlation with *Oligotenes*.

***Metachorista megalophrys* spec. nov. (figs. 409, 410, 411)**


*μέγας* = large, *ὄφρυς* = eyelash

♂ 15 mm, ♀ 16.5–18 mm. Head white. Palpus black, apex of median segment, and terminal segment white, terminal segment sometimes slightly

mixed with black in middle. Antenna whitish ringed with black, black towards base, scape white. Thorax grey in male, white with black apex in female. Abdomen pale greyish-ochreous, anal tuft in male whitish. Legs whitish, anterior tibia and tarsus black above, white-ringed, median knee black, median tarsus dark-ringed. Fore wing elongate, narrow, little dilated; costa little curved anteriorly, straight posteriorly; apex rather pointed, termen slightly concave, oblique. White, spotted and slightly irrorated, especially along markings, with pale ochreous, markings black. A narrow transverse streak at base of costa to below fold, a little dilated triangularly on costa, angulate and strongly extended posteriorly so as to form an equilateral triangular spot; base of this spot along vein 1b, top of spot to upper edge of cell beyond  $\frac{1}{5}$ , in male with lower half ferruginous-brownish; edge of dorsum, lower edge of triangular spot, and a streak of irroration along dorsum light ochreous; and interrupted irregular light ochreous streak from base to  $\frac{4}{5}$ , less distinct in female; a curved undulate streak from beyond  $\frac{1}{4}$  to  $\frac{3}{4}$  of costa, preceded by two black costal points; this streak reaching to lower edge of cell before middle of wing, slightly gradually dilated posteriorly, with a small projection below, reaching middle of fold, and with a wedge-shaped projection posteriorly just above end of cell, running horizontally, in male thicker, less acute; this undulate streak is edged below with irregular patches of light ochreous colour, largest in middle of streak and at  $\frac{3}{4}$ ; streak ends in an erect-diamond-shaped spot on costa, and in male is marbled with dull ferruginous-brownish, forming a patch below costa; a small semioval spot on costa before middle, followed by two costal points; a slightly undulate slender preterminal streak, from middle of vein 3, to costa just before apex; on costa this streak adorned with a black point, and edged anteriorly with a light ochreous suffused spot; this preterminal streak gradually narrowed, lower extremity clavate, rounded; termen beyond streak light ochreous; three black points on dorsum: at  $\frac{1}{3}$ , at  $\frac{3}{5}$  and at  $\frac{4}{5}$ ; ultimate point somewhat erect, sometimes forming an oblique line to lower end of preterminal streak; a row of minute black points on veins along terminal edge. Cilia white, sometimes tiny black bars on basal half opposite terminal points. Hind wing glossy white, faintly tinged greyish posteriorly, short cloudy longitudinal grey marks along ends of veins, cilia white.

Tegumen rather broad, little narrowed above. Uncus small, with a short narrow, simple hook. Soeius, a minute round knob with two long bristles. Hamus, a slender porrect projection, with apex curved laterad. Gnathos weak: a pending gradually curved structure, articulations to tegumen weak. Transtilla absent. Valva narrow, costa distinct, ending in a bristled knob, eucellus very oblique, sacculus over  $\frac{1}{2}$ , terminal knob large, rounded, densely covered with modified, short, flattened, bifid bristles. Aedoeagus very long, narrow, strongly curved, sinuate towards top. Cornutus, a single long spine. Anellus strongly dilated above, encircling aedoeagus. (Slide No. 736 D, holotype).



Limen forming a small transverse fine-haired pad in middle laterally with a -shaped chitinous scobinate rod. Eighth tergite erect, narrowed ventrad. Ovipositor slender, lobes with erect tops, pressed against each other. Ductus bursae extremely narrow, long. Bursa copulatrix spheroid. Signum, a triangular concave plate. (Slide No. 737 D, allotype).

Moss Forest Camp, five km northeast of Lake Habbema, 2800 m, October 91, 1938 (holotype, male), October 15—26, 1938. Lake Habbema, 3250—3300 m, August 26, 1938 (allotype, female), end July—end August, 1938. Two males, seven females. Male genitalia of the *Schoenotenes* type.

***Metachorista refracta* spec. nov. (fig. 408)**

♂ 18 mm, ♀ 20 mm. Head and thorax white, mixed with pale greyish-ochreous, thorax in male suffused with black, less so in centre, tegula with a black tip. Palpus white, median segment suffused with blackish except at apex; terminal segment with a median blackish band, or with blackish basal half. Abdomen pale ochreous (in male missing). Legs pale ochreous, anterior tibia and tarsus blackish, white-ringed. Fore wing with distinct tufts: above  $\frac{1}{3}$  of dorsum, and on closing vein; elongate-subovate, rather narrow, dilated; costa moderately curved anteriorly, hardly so posteriorly, apex subacute, termen faintly sinuate, considerably oblique. White, faintly suffused with pale greyish-ochreous, transversely strigulated with light greyish-ochreous or light ochreous; markings black and light ochreous or brownish. Extreme base of costa blackish; seven small black dots from beyond base to beyond  $\frac{3}{4}$  of costa, alternating with minute black points and pale greyish-ochreous transverse strigulae; base of wing more or less suffused with ochreous; a black patch irrorated with whitish from base to  $\frac{1}{3}$  of dorsum, above reaching to fold, well-defined, truncate posteriorly; a narrow marginal light ochreous streak along base of dorsum; in male black patch obliterate except for a narrow inwardly oblique black line at  $\frac{1}{4}$  of dorsum; a black narrow streak from middle of upper edge of cell to  $\frac{3}{4}$  of its lower edge, rectangularly bent or interrupted there, thence to beyond  $\frac{3}{4}$  of costa, turning brownish towards bent in male; this streak interrupted in bent by a spot of light ochreous suffusion, which is connected with fold in male by brownish, in female by light ochreous suffusion; a rectangular spot on middle of dorsum, in male of grey suffusion irrorated with black along fold, in female black; discal streak towards costa slightly dilated, edged posteriorly with light ochreous suffusion, furcate just below costa and terminating in two costal black dots; dorsum below vein 1b transversely strigulated with grey; transverse pale greyish-ochreous strigulation becoming more distinct posteriorly and also forming a slender erect spot in tornus and an irregular transverse mark before upper  $\frac{2}{3}$  of termen; two minute transverse strigulae in apex. Cilia white, a faint interrupted greyish antemedian line. Hind wing glossy white, edge posteriorly faintly tinged ochreous, cilia white.



Limen broad, deeply excavate in middle, forming two rounded laterally fine-haired pads, and a moderate sclerotized transverse plate in middle. Ductus bursae broad, wall sclerotized, except towards extremities. Colliculum small. Signum, a rounded small plate with a hollow projection. A narrow transverse haired fold above ostium. Ovipositor subtubular, lobe rather broad, hardly narrowed in middle. (Slide No. 744 D, holotype).

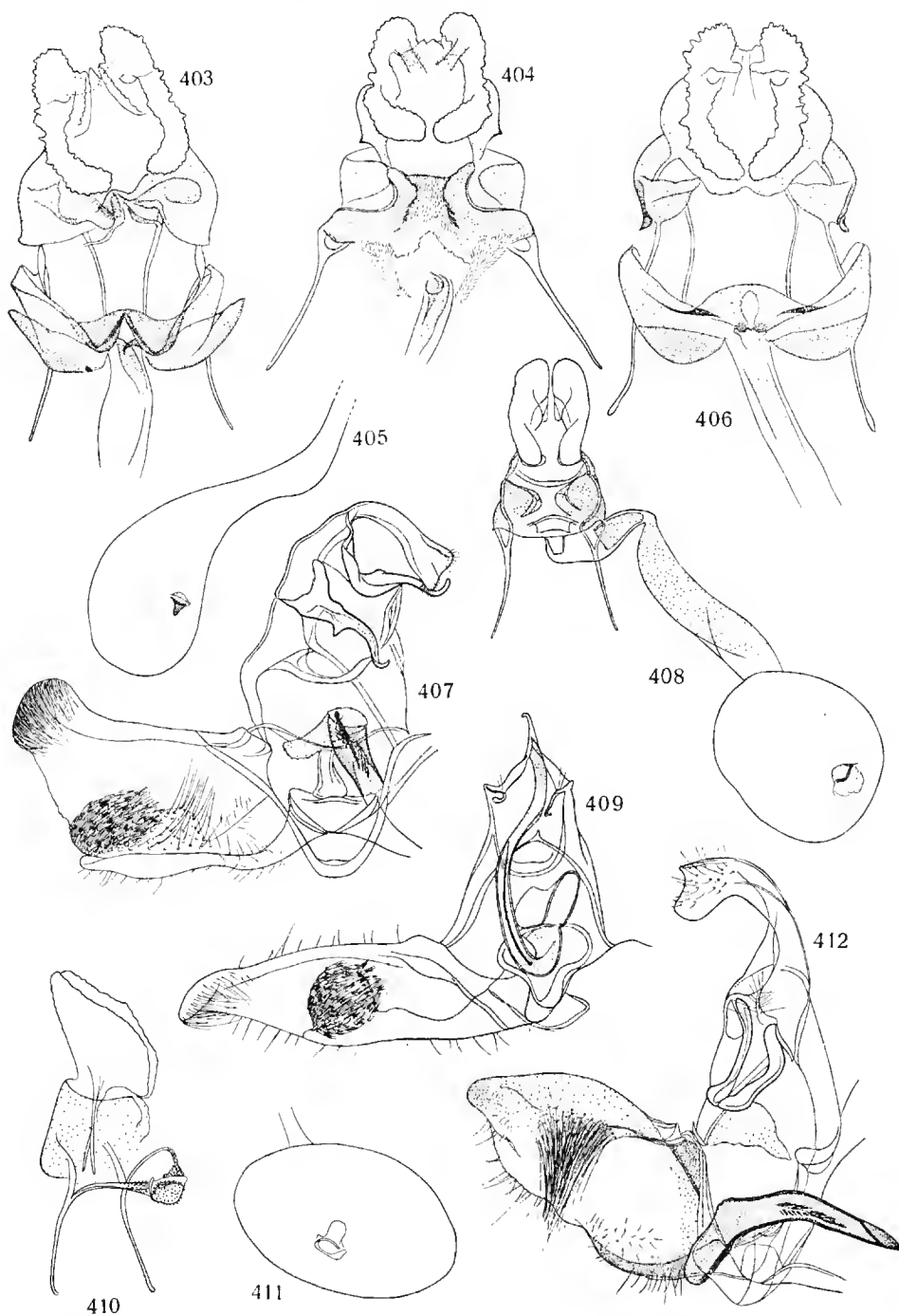
Moss Forest Camp, five km northeast of Lake Habbema, 2800 m, October 15, 1938 (holotype, female), Top Camp, 2100 m, January 26, 1938 (allotype, male). Two specimens.

***Metachorista deltophora* spec. nov.**

$\delta\epsilon\lambda\tau\alpha$  = letter delta,  $\varphi\acute{\epsilon}q\omega$  = to bear

♂ 14.5 mm, ♀ 16—18 mm. Head and thorax white, tinged with pale orange-ochreous in female. Palpus rather short; whitish, densely irrorated with fuscous-blackish, terminal segment with whitish base, less irrorated in female. Antenna ringed with fuscous-grey, scape white, tinged pale ochreous-orange. (Abdomen missing in both sexes). Legs whitish, anterior and median tibia and tarsus ringed with dark fuscous. Fore wing elongate-subtriangular, narrow; costa little curved anteriorly, more so in male, straight posteriorly, apex pointed; termen straight in male, sinuate in female, considerably oblique. Pale yellowish-whitish, suffused and irrorated with light orange-ochreous, markings black and pale greyish-fuscous. An angulate transverse fascia from costa beyond base to above base of dorsum, black above and beneath, with a rounded pale greyish-fuscous patch in middle, which is narrowly edged with black anteriorly; a small group of black scales on costa beyond this fascia, minute points below this group in an oblique series across disc, and a rounded small dot below fold before  $\frac{1}{4}$  of wing; a slender, slightly undulate fascia, running from before  $\frac{1}{4}$  of costa to  $\frac{2}{3}$  of costa, almost rectangularly bent in middle; angle of fascia with a short projection below reaching to middle of fold; this fascia slightly dilated just above cell posteriorly and forming an angulate moderate projection below, strongly constricted or interrupted above this; fascia black, anterior half mixed with brownish below costa and on bent, posterior half below costa greyish, edged with black; a large rounded dot on costa before middle: black mixed with dark brown, preceded and followed by moderate and by minute costal points; a rounded spot above tornus and an erect-ovate spot before middle of termen: light greyish-fuscous, narrowly edged with black: three black dots on costa before apex, some three black points along dorsum. Cilia white touched with yellowish, tip suffused with pale grey, a submedian row of triangular black dots. Hind wing and cilia glossy pale yellowish-white.

Moss Forest Camp, 2800 m, October 9—November 5, 1938 (allotype, female). Five km northeast of Lake Habbema, 2800 m, October 13, 1938



Genitalia of Schoenotenidae. Fig. 403: *Oligotenes polylampes* spec. nov., female. Fig. 404: *Metachorista hierophantis* spec. nov., female. Fig. 405: *idem*, bursa copulatrix. Fig. 406: *Oligotenes chrysoteuches* spec. nov., female. Fig. 407: *Metachorista ursula* MEYRICK, male. Fig. 408: *M. refracta* spec. nov., female. Fig. 409: *M. megalophrys* spec. nov., male. Fig. 410: *idem*, female. Fig. 411: *idem*, bursa copulatrix. Fig. 412: *M. hierophantis* spec. nov., male.

(holotype, male), October 25, 1938. One male, three females. Unfortunately all the specimens lack the abdomen. Allied to the preceding.

**Metachorista ursula** MEYRICK, 1938 (figs. 376, 377, 407, 424, 425)

*Metachorista ursula* MEYRICK, 1938, Trans. Ent. Soc. Lond., vol. 87, p. 510.

Distribution: New Guinea, Papua: Mount Kokoda, 1200 feet.

Lake Habbema, 3250—3300 m, end July—end August, 1938. Moss Forest Camp, five km northeast of Lake Habbema, 2800 m, October 9—November 15, 1938. Iebèlè Camp, 2250 m, November 18, 1938. Eight males, fourteen females. A considerably varying species, distinct by the angulate discal streak which is suffused below, with this suffusion more or less extended; its upper edge is well-defined and encloses a small angular spot of the ground colour. A moderate subbasal spot above dorsum, with indent upper edge, also forms a good characteristic; this mark is but seldom absent.

Tegumen strong. Uncus rather narrow, hooked, top dilated, truncate, short-bristled. Socius absent. Hamus strong, base dilated, a moderate projection before middle, top narrow, curved. Gnathos a curved strong rod, constricted in middle, bases dilated. Transtilla slender, narrow. Valva truncate, costa with a bristled projection posteriorly; saccellus strong, narrow, ending in a large pad covered with pencil-like flattened bristles. Aedoeagus short, angulate. Cornuti, a strong spine and a sinuate patch of fine bristles. (Slide No. 750 D).

Seventh segment strongly sclerotized, fine-haired, ventrite broad, upper edge angularly projecting at the sides, with two oblique diverging folds in middle, lower edge with a rectangular prominence. Ostium with an ovate ventral lobe. Ductus bursae wide along basal half, with a dilatation in middle, narrow beyond this. Bursa copulatrix ovoid. Signum, a moderate, hollow knob. Eighth tergite forming a high collar. Ovipositor lobe slender, long, very narrow. (Slides No. 739 D, No. 738 D).

**Metachorista austera** spec. nov. (fig. 419)

*ἀσθηρός* = austere

♀ 19 mm. Head white, side tufts mixed with black. Palpus brownish mixed with black; apex of median segment white; terminal segment white, with a black median ring. Thorax whitish mixed with grey and black, shoulder suffused with blackish; tegula white mixed with light brownish-orange. Abdomen pale ochreous. Legs white, anterior tibia and tarsus black, white-ringed, median tibia with a black basal ring, median tarsus ringed with black. Fore wing elongate-subtriangular; costa moderately curved anteriorly, slightly impressed beyond middle, little curved before apex, apex subobtuse; termen almost straight, slightly convex above, oblique. White, faintly tinged ochreous, irrorated and retinate with

light orange-brownish, markings black and light fuscous-grey. Base of costal edge black; a moderate transverse streak from costa beyond base to below fold, with anterior edge twice excavate, with a rounded projection in middle and an acute one in fold: black on costa and along margins, irrorated with grey-brownish elsewhere; about eight triangular black costal dots, an oblique series of black scales from below first of these dots to fold; an elongate black patch in middle of cell, with upper edge deeply triangularly indent, anterior extremity rounded, suffused with greyish-fuscous; this extremity almost connected with a wedge-shaped oblique transverse mark of blackish and brown irroration, originating from second costal dot, with posterior extremity to before  $\frac{3}{5}$  of wing length; this transverse mark truncate, well-defined, with upper angle connected with a line of black irroration, curved and running upward, then downward around and much beyond posterior end of cell, filled above with grey; lower part of transverse mark vertical, reaching to an erect-ovate spot in tornus; this spot greyish-fuscous, black-edged; third and fourth costal dots with wedge-shaped transverse marks of blackish and brownish irroration below, first mark to upper edge of cell, second one to dark discal markings; fifth and sixth costal dots together with an irregular longitudinal mark below costa form a small costal patch; last mentioned longitudinal mark connected with sixth costal dot by a streak of grey suffusion; an elongate spot before middle of termen, slightly constricted in middle, with truncate extremities; this spot irrorated with brownish, black-edged except above and below; dorsum from beyond base to before tornus with a series of coarse transverse blotches of dark grey irroration, more or less confluent, becoming longer towards middle of wing, not reaching cell; tufts strongly raised; white anteriorly, dark greyish-fuscous posteriorly; terminal edge with a narrow, interrupted blackish-brown line. Cilia whitish, mixed along posterior  $\frac{2}{3}$  with dark grey, a zigzag blackish antemedian line, blackish bars on costal cilia. Hind wing and cilia glossy white, faintly touched with pale yellowish.

Limen bent twice, trapezoid: forming a median transverse finely scobinate pad with lower angles rounded and projecting, and lateral rods, which are narrowed above. Ostium with an ovate transverse ventral plate. Ductus bursae narrow, long. Colliculum small, asymmetrical. Bursa copulatrix spheroid. Signum, a large concave plate. Eighth tergite forms a triangular collar with lower angles acutely narrowed. Ovipositor lobe with triangular, pointed upper half, lower half elongate, curved. Anus with two dorsal rising projections. (Slide No. 742 D).

Moss Forest Camp, five km northeast of Lake Habbema, 2800 m, October 26, 1938. One specimen. Allied to *M. ursula* MEYRICK.

***Metachorista loepa* spec. nov. (figs. 417, 418)**

*λοίπος* = remaining

♀ 15.5 mm. Head white, slightly mixed with light greyish-fuscous. Palpus



whitish irrorated with pale greyish-fuscous, median segment with a darker fuscous median dot above. Thorax whitish suffused with pale ochreous-greyish, posterior crest white. Abdomen pale ochreous-greyish. Legs pale brownish-ochreous, anterior tibia and tarsus dark fuscous, pale-ringed. Fore wing elongate, little dilated, costa moderately curved anteriorly, straight posteriorly, apex subobtusate, termen moderately sinuate, oblique, tufts distinct. Whitish, irrorated with light ochreous and pale grey, suffused with grey, marked with black. Extreme base of costa suffused with grey, basal patch suffused with pale ochreous and greyish, edge strongly outwardly oblique, with a triangular black dot on costa, below this formed by a narrow irroration of black scales suffused with greyish-fuscous anteriorly, with an angulate black projection in fold, obliterate below this; a small black dot on costa beyond basal patch and a larger wedge-shaped one at  $\frac{1}{4}$ , slightly suffused with grey below, almost connected with a thick crescentic mark in middle of cell which is concave above, black, edged anteriorly and below with tawny-fuscous; a round greyish-tawny dot on middle of costa, edged with black, followed by a smaller black costal dot; costal markings alternating with minute black points; a moderate grey suffusion along dorsum from beyond base to  $\frac{2}{3}$ , slightly transversely strigulated with darker grey, dilated posteriorly and touching discal mark above middle of fold; plical tuft moderate, white anteriorly, suffused with tawny posteriorly; a cloudy patch of dark grey irroration below  $\frac{3}{4}$  of costa, not reaching discal mark, irrorated with black points that are almost confluent with three black dots on costa; these dots followed by two fuscous points on costa before apex; two irregularly rounded spots: in tornus and before middle of termen, respectively, pale tawny-greyish, edge slightly irrorated with blackish; termen with minute marginal brownish streaks on veins, dorsal edge dotted with blackish. Cilia whitish, barred with pale grey, an antemedian row of minute dark fuscous points. Hind wing and cilia white, with a pale ochreous gloss.

Limen less angularly bent than in the preceding species, narrower, constricted in middle. Ventral plate below ostium smaller. Colliculum larger, less sclerotized. Ductus bursae tortuous, very narrow. Bursa copulatrix spheroid. Signum, a narrow curved sclerotized ridge. Eighth tergite forming an almost cylindrical collar. Ovipositor slender, upper half erect, narrow, lower half moderately curved. (Slide No. 743 D).

Mist Camp, 1800 m, January 8, 1939. One specimen. Closely allied to the preceding.

***Metachorista mesata* spec. nov. (fig. 421)**

*μέσarov* = the middle one

♀ 16—20 mm. Head and thorax pale grey, tegula sometimes irrorated with darker grey. Palpus whitish irrorated with pale fuscous or white, median segment except above and at apex, and terminal segment basally,



suffused with blackish-fuscos. Abdomen pale ochreous. Legs pale ochreous, anterior tibia and tarsus dark fuscous, pale-ringed. Whitish, tinged pale ochreous, transversely strigulated and marbled with grey and bright ochreous, markings ochreous and black. Costa slightly suffused with grey anteriorly and marked throughout with a row of nine round blackish-grey dots becoming larger and triangular posteriorly; basal patch indicated by a narrow oblique blackish line from beyond base of costa to below fold, filled with ochreous; a black point in disc beyond preceding, a round ochreous dot above  $\frac{1}{3}$  of dorsum, narrowly edged with black; a few blackish dots below middle of costa, slightly suffused with grey; a small oblique transverse patch in middle of cell, blackish or ochreous, black-edged, continued by an oblique line of black irroration to fold, coarse black transverse strigulation along posterior half of fold, more or less mixed with bright ochreous; discal tuft forming a dark grey rounded spot on end of cell, preceded by an inwardly oblique line of black scales suffused with ochreous, from lower edge of cell to below  $\frac{4}{5}$  of costa; a patch of bright ochreous suffusion around discal tuft posteriorly and between this and fold, with posterior edge mixed with black irroration and forming two strongly rounded projections, above and beneath, respectively; sometimes ochreous suffusion less distinct, replaced by blackish irroration; a faint grey suffusion below  $\frac{4}{5}$  of costa and a wedge-shaped ochreous streak from costa, pointing towards middle of termen; an elongate transverse preterminal mark from vein 4 to 7, parallel to termen, lower end clavate, upper truncate: ochreous, edged with black, except above, sometimes interrupted; dorsum below vein 1b from beyond base to tornus, and terminal fourth of wing, transversely strigulated with grey. Cilia pale whitish-ochreous, a minute brownish antemedian line with a row of small triangular black dots. Hind wing and cilia whitish with a distinct pale yellowish gloss, stronger posteriorly; veins 3 and 4 closely approximated in paratype.

Limen forming a broad fine-haired ovate median pad with convex upper edge, and a small pocket-like fold at each side of upper edge. Colliculum absent. Ductus bursae short, with a broad cestum before middle. Bursa ovoid. Signum, a moderate hollow horn. Eighth tergite subtriangular. Ovipositor lobe elongate, thickened. (Slides No. 746 D, holotype, No. 745D, paratype).

Moss Forest Camp, 1800 m, October 18, 1938 (paratype), October 15, 1938 (holotype). Two females. Allied to *M. ursula* MEYRICK.

### **Diactenis MEYRICK, 1907 (figs. 383, 384, 385)**

*Diactenis* MEYRICK, 1907, Journ. Bomb. Nat. Hist. Soc., vol. 17, pp. 979-980. Proc. Linn. Soc. N.S. Wales, vol. 35, p. 281, 1910. Lepid. Catal., fasc. 10, p. 50, 1912. Gener. Ins., fasc. 149, p. 48, pl. 3, fig. 35, pl. 5, figs. 71a, b, 1913. FLETCHER, Mem. Agr. Ind., Ent., vol. 11, p. 66, 1929. DIAKONOFF, Zool. Meded. Mus. Leiden, vol. 21, pp. 234-235, figs. 19 A (gen. ♂), B (gen. ♀), C (neur.), D (head), 1939.

Ibid., vol. 31, pp. 165, 170–171, figs. 1–2, 1952. *Treubia*, vol. 18, p. 425, fig. 4, 1941.

Head with appressed scales, side tufts wide, appressed. Ocellus absent. Proboscis very short. Labial palpus rather short, porrect, median segment strongly expanded posteriorly by roughly projecting hairs, terminal segment short, subacute. Maxillary palpus minute or concealed. Antenna moderately ciliated in male. Thorax without crest. Fore wing without costal fold, subovate, thinly scaled, with transverse ridges of raised scales, veins raised, fringed with roughish scales forming numerous small tufts. 1b short-furcate at base, 2 from  $\frac{2}{3}$ – $\frac{3}{5}$  of lower edge of cell, 3 from angle, 3–6 and 8–11 tolerably parallel, 3–4 approximated or 3–5 almost equidistant, 7 separate from angle, to termen, 8 from slightly before apex, 11 from  $\frac{1}{3}$ – $\frac{2}{5}$  of upper edge of cell. Hind wing semipelluculent, without cubital pecten, elongate-semiovate,  $\frac{1}{2}$ – $\frac{3}{4}$ ; cilia 1 to over 1; 2 from  $\frac{4}{5}$ – $\frac{5}{6}$ , 3 from angle, 4 remote, seemingly from upper angle of cell, 5 long, almost parallel, seemingly from  $\frac{1}{2}$  or  $\frac{1}{3}$  of upper edge of cell (actually from almost horizontally running closing vein), 6 and 7 long, stalked, stalk from upper edge of cell towards base of wing, 8 from base.

Genotype: *Diactenis pteroneura* MEYRICK, 1907 (India, Ceylon, Java?, Australia).

A development of the *Schoenotenes* type. A considerably specialised form, represented by the above mentioned species, by two more from India, one from the Andaman Islands, four from Java, and one from Sumba. All have in common small size and pale ochreous or whitish colouring.

### **Proactenis** DIAKONOFF, 1941 (figs. 391, 392)

*Proactenis* DIAKONOFF, 1941, *Treubia*, vol. 18, p. 427, fig. 5 (neur., head), pl. 20, fig. 9 (gon. ♂), pl. 21, fig. 1 (gen. ♀). *Zoöl. Med. Mus. Leiden*, vol. 31, p. 170, 1952.

Head with dense, roughly appressed scales. Ocellus absent. Proboscis moderate. Antenna moderately ciliated in male. Labial palpus moderate, porrect, median segment strongly dilated by roughly projecting scales towards apex, terminal segment moderate, slender, subobtuse. Maxillary palpus absent (concealed?). Thorax without crest. Fore wing without costal fold, with small tufts of scales along veins. 1b furcate along basal fourth, 2 from  $\frac{2}{3}$  of lower edge of cell, 3 from angle, 4 separate, approximated towards base, 5 parallel, 7 separate, from angle, to termen, 8 from slightly before angle, 11 from before middle of upper edge of cell; a strong parting vein from about halfway between base of cell and vein 11 to above base of vein 5. Hind wing semipelluculent, without cubital pecten, elongate-semiovate, 1– $\frac{2}{3}$ , cilia  $\frac{1}{4}$ ; 2 from  $\frac{5}{6}$  of lower edge of cell, 3 from angle, 4 rather remote, approximated towards base, 5 from  $\frac{4}{5}$  of cell, 6 and 7 long, stalked, apparently from base of wing, anastomosing by a short vertical bar with  $\frac{2}{5}$  of cell, 8 from baso.

Genotype *Proactenis tricoma* DIAKONOFF, 1941 (Sumatra), male, female.

Intermediate between the preceding genus and *Schoenotenes*, also correlated with *Proselena*. Three species from Java and one from northeast New Guinea are known at present.

### **Choristenes** gen. nov. (figs. 378, 379)

*χωρίς* = other than, *τείρω* = to tighten

Head with appressed scales, long on vertex; face smooth. Ocellus absent. Proboscis short. Antenna serrulate in female, scape slightly elongate. Labial palpus moderately long, subascending, clothed with smoothly appressed scales, median segment slender, gradually, but little dilated posteriorly, slightly roughish at apex above, terminal segment moderate, under  $\frac{1}{3}$ , smooth, subobtuse. Maxillary palpus vestigial. Thorax with a slight posterior crest. Fore wing rather narrow, pointed, with a small discal tuft of raised scales, 1b furcate to beyond  $\frac{1}{4}$ , 2 from middle, 3 and 4 stalked from

angle, 5 and 6 parallel, 7 and 8 almost connate, from angle, 7 to termen, 9 approximated to 8, 9–11 tolerably equidistant, 11 from  $\frac{2}{3}$ , parting vein rather weak, little sinuate, from halfway between base and 11, to above base of 5. Hind wing without cubital pecten, elongate-semiovalate, cilia  $\frac{1}{3}$ , 2 from  $\frac{4}{5}$ , 3 and 4 very short-stalked, 5 approximated, 6 and 7 stalked, from upper angle of cell, closing vein oblique below, angularly bent.

Genotype: *Schoenotenes melitoptila* MEYRICK, 1938 (Papua), male.

A development of *Schoenotenes* MEYRICK, sufficiently distinct by neuration.

Genitalia of the genotype (fig. 398). Ostium split. Limen narrow, bent in middle, forming a small subquadrate plate behind. Ductus bursae very narrow, extremely long, two narrow sclerotized cista along upper part. Bursa copulatrix small, spheroid. Ovipositor rather broad, almost tortricoid. (Slide No. 687 D.) Mr. BRADLEY kindly informed us that lectotype, a male, in the British Museum, lacks the abdomen

### *Copidostoma* gen. nov. (fig. 413)

$\kappa\omicron\pi\iota\varsigma$  = a sword,  $\sigma\tau\acute{o}\mu\alpha$  = mouth

With the characters of *Schoenotenes* MEYRICK, 1910, but with labial palpus long, with rather appressed scales, ascending, moderately bent in middle, posterior half appearing porrect, median segment with roughly



Fig. 413: *Copidostoma chrysodoris* gen. nov., spec. nov., female, head.

projecting scales above posteriorly especially towards apex above, less so beneath, terminal segment rather long, porrect, slender, subacute. Maxillary palpus minute, vestigial. Hind wing with veins 3 and 4 connate, 5 closely approximated at base, 6 and 7 short-stalked.

Genotype *Copidostoma chrysodoris* spec. nov., female.

A development of *Schoenotenes*, differing by long, ascending palpi.

### *Copidostoma chrysodoris* spec. nov. (figs. 413, 416)

$\chi\rho\upsilon\sigma\acute{o}\varsigma$  = gold,  $\delta\omicron\rho\acute{\iota}\varsigma$  = knife

♀ 20 mm. Head and thorax ochreous, the latter suffused with light ochreous in middle, tegula light ochreous. Palpus long, pale ochreous. Abdomen pale ochreous. Legs pale ochreous-whitish, anterior tibia and tarsus dark brown, light-ringed. Fore wing elongate-triangular, narrow, dilated; costa little curved towards extremities, straight in middle; apex pointed, termen hardly sinuate, strongly oblique. Pale whitish-ochreous, suffused with bright ochreous-yellow and light brownish-ochreous, markings brownish-black. Basal fourth of costal edge with some three narrow short longitudinal streaks; middle of costa with two similar streaks, and with

a point between these, interconnected by brownish suffusion; two minute dark points beyond preceding marks and four dots along posterior fourth of costa, becoming smaller towards apex; an elongate-semiovate patch of ochreous-yellow suffusion from before middle to before apex, paler posteriorly, continued to apex by light brownish-ochreous suffusion, anterior edge gradually convex, posterior tolerably straight, running along vein 9; an inwardly oblique curved series of sparse small brownish-black dots; about three small dots above  $\frac{1}{3}$  of dorsum below and above fold, a horizontal pair of smaller dots below middle of upper edge of cell and an ill-defined group of dark scales between bases of veins 9 and 10; faint dark brown dotting along basal third of dorsum; a conspicuous blackish rounded-semiovate spot slightly beyond middle of dorsum reaching to fold, sometimes entirely absent; a small black dot on end of fold, and a few plical dark scales above this dot; a moderate premarginal streak of light brownish-ochreous suffusion, narrowed below, from end of vein 1b to vein 9, tolerably parallel to edge of wing, mixed with dark brown scales anteriorly, which form a narrow irregular streak along preterminal part; a row of pale brownish points on terminations of veins, that on vein 7 larger, brownish-black; middle of disc to dorsum before tornus evenly suffused with light brownish-ochreous. Cilia whitish-ochreous, opposite apex suffused with light brownish-ochreous, an antemedian light brownish-ochreous streak. Hind wing pale ochreous touched with greyish, cloudy dark grey spots on terminations of veins 8—3, cilia white.

Genital segment sclerotized, very complicated; limen, a triangular median body with point directed downward, upper edge indent in middle, angle rounded; laterally, a vertical plate at each side, with outer edge thickened, crowned by a small acutely triangular lobe; a flattened broad collar around ovipositor, ovipositor lobes rather broad, reniform. Ductus bursae very long, coiled. Bursa copulatrix small, spheroid. Signum, a short rounded hollow projection, with a circular base. (Slide No. 692 D, holotype).

Moss Forest Camp, 2600—2800 m, October 18, 1938 (holotype), October 15, 1938. Lake Habbema, 3250—3300 m, August 19, end July—end August, 1938. Four specimens.

### *Schoenotenes* MEYRICK, 1908 (figs. 374, 375)

*Schoenotenes* MEYRICK, 1908, Journ. Bomb. Nat. Hist. Soc., vol. 18, p. 619. Lepid. Catal., fasc. 10, p. 51, 1912. Gener. Ins., fasc. 149, p. 49, 1913. FLETCHER, Mem. Agr. Ind., Ent., vol. 11, p. 199, 1929. DIAKONOFF, Zool. Meded. Mus. Leiden, vol. 21, pp. 214—217, figs. 11 K (head), J (neur.), 16 D (gen. ♂), 1939. Ibid., vol. 31, pp. 167—169, figs. 3—5, 1952. Treubia, vol. 18, p. 426, fig. 6 (head, neur.), 1941.

*Epitrichosma* LOWER, 1908, Trans. Roy. Soc. S. Austral., vol. 32, p. 320 (genotype *E. neurobapta* LOWER). FLETCHER, Mem. Agr. Ind., Ent., vol. 11, p. 83, 1929 (synon.).

*Argyrotoxa* MEYRICK (part, nec sensu HÜBNER), Proc. Linn. Soc. N.S. Wales, vol. 35, pp. 281—282, 1910.

Head with more or less appressed scales. Ocellus posterior. Proboscis moderate. Antenna moderately ciliate in male, minutely ciliate in female,



scape moderate or somewhat elongate. Labial palpus moderate or moderately long, porrect or subascending, seldom moderately curved downward, median segment with appressed scales, roughish towards apex above, roughly projecting beneath, seldom median segment slender, with closely appressed scales; terminal segment moderate, subobtusate. Maxillary palpus absent (concealed?), seldom minute but distinct. Thorax mostly without, sometimes with a posterior crest. Fore wing without costal fold; either rather broad and subovate or moderately broad and subtriangular, or rather narrow and pointed, mostly with veins raised and covered with roughish scales, with three raised scale-tufts: an elongate along basal third of upper edge of cell and two ovate tufts; in middle of fold and on closing vein, last two often strongly raised; 1b furcate at base, 2 from  $\frac{1}{2}$ — $\frac{3}{5}$  of lower edge of cell, 3 from angle, approximated to 4 at base, 7 separate, from upper angle of cell, to termen, 8 approximated to 7 at base, sometimes considerably remote and from before angle, to costa, seldom apparently to apex, 11 from beyond middle of cell, a strong, oblique, slightly sinuate parting vein from before base of 11 to above base of 5. <sup>1)</sup> Hind wing 1, mostly semioovate, sometimes subtrapezoid, often semipelluculent, without cubital pecten, cilia  $\frac{1}{6}$ — $\frac{1}{4}$ ; 2 from  $\frac{3}{5}$ — $\frac{2}{3}$  of lower edge of cell, 3 and 4 connate from angle, 5 more or less approximated, 6 and 7 mostly short-stalked, seldom connate or closely approximated, stalk widely remote from 5, cell narrow, closing vein as a rule considerably oblique.

Genotype *Schoenotenes synchorda* MEYRICK, 1908 (India, Java).

A genus of considerable extent, forming a typical feature of the Papuan Fauna; it seems very probable that New Guinea also is the country of its origin. In comparison with the number of species from that island (and from the Bismarek Islands) which are already known or described below, *Schoenotenes* is but poorly represented in Australia, in the Malayan Region and in India.

The genus is easy of recognition, and its representatives can be arranged in a natural series, beginning with the species of Copromorphid facies: with ovate roughish fore wings, of which the veins are strongly raised, and with semipelluculent hind wings. The male genitalia of this older group possess a narrow uncus, strong hamuli, and small or no socii and a relatively simple valva, while the female genitalia show an intricate development of the strongly sclerotized genital segment. The antipodes of this group are the species with Tortricid facies: subtriangular fore wings which are rather smoothly scaled, except for the invariably present plical and discal scale-tufts, and with a normally scaled, subtrapezoid hind wing, of which the cell is rather broad and the closing vein not so strongly oblique as in

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<sup>1)</sup> As an exception veins 7 and 8 in the fore wing are stalked in a single species, with the stalk of these veins of unequal length in the left and in the right wing of the unique specimen. Therefore we are inclined to explain this situation as anomalous.



the preceding group. The male genitalia are of the Tortricoid type, without hami, with pending socii, with a strong gnathos, and a simple valva of Cacoeciine appearance. This group forms the natural connection with the family Tortricidae. The two above mentioned groups are connected with each other by a long series of species intermediate as to the shape and the scaling of the fore and the hind wings, and as to the shape of the genitalia; these intermediate forms have a robust, sometimes curiously shaped gnathos, and a valva with a bristled knob at the top of the sacculus. In many species the sacculus bears a patch of curious, flattened, and bifid bristles.

Distribution of the genus *Schoenotenes* outside the Papuan region is as follows: Australia: seven species, Sumatra: one, Java: two, India, Malaya and Sumatra: one, India and Java: one species, altogether twelve species. Furthermore one undescribed species has recently been collected by the author in South Celebes, another was received from the Moluccas.

The following species are apocryphic:

*Schoenotenes circensis* MEYRICK 1928, Exot. Microl., vol. 3, p. 459, from the Bismarek Islands and New Guinea, belongs to the genus *Ochetarcha* MEYRICK (Tortricinae, Peroneini), see DIAKONOFF, Treubia, vol. 19, p. 513, 1948.

*Schoenotenes cremnotoma* MEYRICK 1936, Exot. Microl., vol. 5, p. 62, from Java, belongs to *Phaenacropista* DIAKONOFF (Tortricinae, Cacoeciini), see DIAKONOFF, Treubia, vol. 18, pp. 389—390, 1941.

*Schoenotenes centrostricta* DIAKONOFF, 1941, Treubia, vol. 18, pp. 43—44, pl. 2, fig. 6, pl. 4, fig. 9, has been transferred to *Proactenris*.

The following species must be referred to *Schoenotenes*:

*Argyroplote ornithotypa* MEYRICK 1938, Trans. Ent. Soc. Lond., vol. 87, pp. 511—512 (Papua); this species is included in the following key.

#### Key to the Papuan species of *Schoenotenes*

1. Unusually small species: 9 mm, with narrow, pointed fore wings, whitish, markings formed by sparse pale fuscous dotting . . . . . *nanodes* spec. nov.  
Not thus . . . . . 2
2. Markings only black, sometimes edged with ochreous or orange . . . . . 3  
Markings not only thus coloured . . . . . 8
3. Ground colour pale yellowish . . . . . *prophanes* spec. nov.  
Ground colour whitish, creamy or pale fuscous . . . . . 4
4. Black markings rather evenly spread all over the wing . . . . . 5  
Black markings limited to costal half of wing or to a small discal mark, a row of costal dots, and scattered minute points . . . . . 7
5. Rounded and elongate dots all over the wing . . . . . *tineoides* spec. nov.  
Not thus . . . . . 6
6. Preterminal mark slender, X or Y-shaped, only in one place or hardly at all connected with discal or dorsal markings . . . . . *dimorpha* spec. nov.  
Preterminal mark thick, N-shaped, distinctly and broadly connected with dorsal markings . . . . . *lichenochroma* spec. nov.

- Preterminal mark elongate-triangular, with slightly concave base towards termen . . . . . *ornithotypa* MEYRICK
7. A basal, a postmedian, and a subapical black costal mark, postmedian largest, shaped like a wine glass . . . . . *cyclicophora* spec. nov.  
A dot or a small crescentic mark in disc, a row of small dots along costa, and scattered black points along fold, in disc beyond cell and before termen . . . . . *octosticta* MEYRICK
8. White, markings well-defined, rather dark fuscous; a transverse fascia at  $\frac{1}{4}$ , a furcate fascia at middle, a costal, and a preterminal spot . . . . . *saliaris* MEYRICK  
Not thus . . . . . 9
9. Strongly retinate with fuscous throughout, whitish ground colour forming round unequal dots in irregular rows, a somewhat darker fuscous spot in disc beyond cell . . . . . *coccya* spec. nov.  
Not thus . . . . . 10
10. A fulvous suffused transverse streak before middle, outwardly oblique, not reaching costa, preceded by a fulvous spot above base of dorsum . . . . . *mesotrauma* spec. nov.  
No fulvous markings . . . . . 11
11. Ground colour pale whitish-greenish, pale yellowish-greenish, or suffused with olive . . . . . 12  
Ground colour with no trace of greenish tinge . . . . . 14
12. An elongate-triangular costal patch, centred with whitish, wing partially suffused with olive . . . . . *olivacea* spec. nov.  
Not thus . . . . . 13
13. Transverse fuscous fascia at  $\frac{1}{3}$ , greenish tinge of ground colour in male often very pale . . . . . *virens* spec. nov.  
That fascia before middle . . . . . *beryllodes* spec. nov.
14. A distinct *triangular* costal spot, sometimes suffused, but always darker than subterminal markings . . . . . 15  
Not thus . . . . . 17
15. A triangular, mottled blackish-grey, costal spot from before middle to  $\frac{5}{6}$  of costa, reaching to fold, containing a chestnut-brown longitudinal streak in disc . . . . . *caryotrota* MEYRICK  
Not thus . . . . . 16
16. Triangular costal mark median, followed by a subquadrate small subapical dot . . . . . *acrogonia* spec. nov.  
Triangular mark along posterior half of costa, large, followed by a light grey suffusion at  $\frac{1}{3}$  . . . . . *triangulum* spec. nov.  
Triangular mark basal, not reaching fold . . . . . *tricolor* DIAKONOFF
17. A complete transverse band at  $\frac{1}{4}$ , considerably darker than other markings 18  
If such a band present, it is not darker than other markings in disc and on costa . . . . . 19
18. Transverse band outwardly convex, not dilated below *xenographa* spec. nov.  
This band straight, gradually strongly dilated below *pachydesma* spec. nov.
19. Ground colour silvery-white, four transverse pale ochreous fasciae, third one interrupted; darker dotting along costa . . . . . 20  
Not thus . . . . . 21
20. First transverse fascia markedly suffused with blackish above fold . . . . . *subcroceata* MEYRICK  
This fascia hardly or not suffused . . . . . *croceosema* spec. nov.
21. Ground colour glossy golden-yellow, light ochreous, light yellow or yellowish, or distinctly retinate or irrorated with ochreous, if pale dull ochreous, then a distinct transverse fascia at  $\frac{1}{4}$  present . . . . . 22

- Ground colour white, whitish, pale bran-colour or pale fuscous, but without yellow or ochreous tinge . . . . . 32
22. Ground colour glossy golden-yellow . . . . . 23
- Ground colour mostly pale ochreous, suffused, irrorated or marked with brighter ochreous or yellowish . . . . . 24
23. A triangular dark brownish-fuscous spot on  $\frac{1}{4}$  of dorsum . . . . .  
     . . . . . *chrysauges* spec. nov.  
     No such spot . . . . . *teratographa* spec. nov.
24. Hind wing posteriorly suffused with dark grey . . . . . *chalcytis* spec. nov.  
     Hind wing white . . . . . 25
25. Fore wing narrow, elongate-triangular, pointed; preterminal marking formed by an irregular transverse ochreous or olive patch . . . . . *agana* spec. nov.  
     Fore wing elongate-subtriangular or elongate-subovate, moderately broad, subacute, preterminal marking not thus . . . . . 26
26. A conspicuous erect-triangular dark brown preterminal spot . . . . .  
     . . . . . *chrysopluta* spec. nov.  
     Preterminal spot rounded, erect, or absent . . . . . 27
27. Preterminal spot distinct, small, rounded . . . . . 28  
     Preterminal spot transversely-erect, ill-defined or absent . . . . . 30
28. An inwardly oblique dark streak from tornus to  $\frac{2}{3}$  of disc or to costa beyond middle . . . . . 29  
     No such streak. A small yellowish species . . . . . *neurobapta* LOWER
29. Central fascia distinct throughout, formed by conspicuous blackish irroration extended along dorsum to before base, 14—16 mm. *leptomorpha* spec. nov.  
     Central fascia less distinct along dorsal half, not thus extended . . . . .  
     . . . . . *lyssodes* MEYRICK
30. Discal markings indefinite; a small, sharp dark brown longitudinal mark above  $\frac{1}{4}$  of dorsum . . . . . *chrysoconis* spec. nov.  
     Not thus . . . . . 31
31. Discal suffusion light brownish, posterior edge acutely projecting above middle of wing . . . . . *centrofracta* MEYRICK  
     Discal suffusion pale ochreous, posterior edge truncate *chalcotypa* spec. nov.
32. Central fascia forming a well-defined spot, an irroration, or a suffused cloudy patch, on middle of *dorsum* being darker and more conspicuous than other markings (sometimes only preterminal markings somewhat darker) . . 33  
     Central fascia, if present, not forming a dorsal mark which is darker than other markings . . . . . 39
33. Dorsal spot conspicuous, blackish. . . . . 34  
     Dorsal spot irrorated or suffused, not blackish. . . . . 35
34. Dorsal spot small, rounded-triangular, well-defined *microphthalma* spec. nov.  
     Dorsal spot moderate, erect-quadrate, or erect-triangular, posterior edge considerably suffused . . . . . *megalops* spec. nov.
35. A narrow transverse line formed by fine black dots from  $\frac{3}{4}$  of costa to termen above tornus, bent outwardly above, bent inwardly below middle . . . . .  
     . . . . . *irresoluta* spec. nov.  
     No such transverse line . . . . . 36
36. Hind wing greyish-fuscous or pale grey . . . . . 37  
     Hind wing white . . . . . 38
37. A broad transverse band of irregular dark fuscous marbling gradually dilated towards costa. . . . . *rubiginosa* spec. nov.  
     A narrow oblique central fascia and isolated costal and preterminal markings . . . . . *aurispersa* spec. nov.
38. Furcate preterminal marking slender, upper arms of the furca strongly curved, very oblique below costa . . . . . *sitochroma* spec. nov.

- That marking less slender, upper arms less curved, below costa less oblique . . . . . *metagrapha* spec. nov.
39. An isolated, curvod, brown mark, convex above, in disc beyond middle, and a strongly oblique fascia from  $\frac{1}{4}$  of costa to fold . . . . . *exarthra* MEYRICK  
Not thus . . . . . 40
40. Ground colour silvery white, wing along edges and on posterior half suffused with greyish-lilac except a rounded preterminal whitish spot, and marked with transverse narrow wine-red lines . . . . . *oenographa* spec. nov.  
Not thus . . . . . 41
41. Preterminal markings reduced to black, dark grey or dark brown small dots, or sometimes groups of these, well or not forming a slender Y-shaped (rosary-like) mark . . . . . 42  
Preterminal markings either absent, or not thus reduced, if a Y-shaped mark present, then this is rather thick and dark grey, and not formed by rows of blackish dots (not rosary-like) . . . . . 49
42. Ground colour white, irrorated with pale fuscous, markings dark brown . . . . . *plagiostibus* spec. nov.  
Ground colour white, if irrorated, then with grey (sometimes with fuscous-greyish); markings grey and/or black . . . . . 43
43. A jet-black small round dot before middle of termen, sometimes surmounted by a row of smaller black dots, other preterminal markings grey . . . . . *argyrolemma*, spec. nov.  
If preterminal markings black, then not thus shaped . . . . . 44
44. A subtriangular black dot before lower half of termen . . . . . *anthracobathra* MEYRICK  
No such dot . . . . . 45
45. Preterminal dots black . . . . . 46  
Preterminal dots fuscous-grey or dark grey . . . . . 47
46. Those dots fine, forming a slender Y-shaped preterminal mark . . . . . *aphrodes* spec. nov.  
Those dots larger, rather irregularly scattered in vertical rows, a long row arising from tornus . . . . . *affinis* spec. nov.
47. Prolongations of costal dots suffused with pink . . . . . *sciocosma* MEYRICK  
Not thus . . . . . 48
48. A pale grey spot on middle of costa, and an oblique rather broad streak from below and before this to beyond middle of dorsum . . . . . *pallida* spec. nov.  
Two round suffused large pale grey spots in disc before middle, and at  $\frac{3}{4}$ , respectively, a narrow curved pale grey transverse line at  $\frac{1}{5}$ ; costal dots darker grey . . . . . *operosa* spec. nov.  
These markings more distinct, narrowed, suffused with blackish-grey except on dorsum . . . . . *canescens* spec. nov.
49. A streak along anterior  $\frac{5}{8}$  of costa strongly dilated in middle of disc, a rounded spot in tornus and a subtriangular spot before middle of termen, conspicuous, dark reddish-brown . . . . . *rhodantha* spec. nov.  
Not thus . . . . . 50
50. Densely suffused with dark grey; a blackish triangular or subquadrate spot below middle of disc at  $\frac{1}{3}$ , fading out towards dorsum, narrowly connected with a semioval spot on  $\frac{1}{4}$  of costa . . . . . *anthracospila* spec. nov.  
Not thus suffused and marked . . . . . 51
51. Dark markings formed by a moderate, subquadrate costal patch, a more or less extended suffusion in middle or beyond middle of disc, sometimes confluent with the latter, and a transverse streak before termen, sometimes confluent with a round spot in tornus; discal tuft mostly distinct, raised, conspicuously white . . . . . 52

- No distinct suffusion in middle or beyond middle of disc, costal markings isolated . . . . . 57
52. Ternal spot and preterminal streak confluent, so as to form a slender streak from tornus to below apex . . . . . 53
- Ternal spot and preterminal streak distinctly separated . . . . . 55
53. Preterminal fascia irregular, with vertical projections to wing edge . . . . .  
 . . . . . *argentea* spec. nov.
- Preterminal fascia well-defined, conspicuous . . . . . 54
54. A large black patch on posterior half of costa to below cell, a brownish-ochreous streak in cell . . . . . *orphnina* spec. nov.
- A curved suffused streak in disc encircling conspicuous white discal scale-tuft, not connected with costal patch . . . . . *glaucops* spec. nov.
55. Discal suffusion limited to a moderate patch beyond cell connected with costal patch and, less distinctly, with middle of dorsum . . . *cuspidata* spec. nov.
- Discal suffusion also extending over cell . . . . . 56
56. Fore wing elongate-subtriangular, rather narrow; preterminal streak narrow . . . . . *lithodes* spec. nov.
- Fore wing subtriangular, broad; preterminal streak rather broad, lower end subclavate . . . . . *ophiodora* spec. nov.
57. Markings formed only by a fine retination or strigulation, paler towards dorsum, darker towards costa . . . . . 58
- Markings formed by a retination as well as by more or less isolated distinct patches and spots or dark points. . . . . 60
58. Fore wing pale bran-coloured, with a fine pale fuscous strigulation, and a row of minute blackish costal dots . . . . . *velutina* spec. nov.
- Fore wing with costal markings hardly darker . . . . . 59
59. Fore wing evenly finely strigulated and retinate with light fuscous, gradually darker in disc posteriorly . . . . . *infusata* spec. nov.
- Fore wing with pale fuscous strigulation, tending to coalesce and form usual costal and preterminal markings . . . . . *farinata* spec. nov.
60. Very small species, 14—15 mm, with narrow elongate subtriangular fore wing 61
- Moderate species with broader elongate-triangular or subovate fore wing, if small (16 mm), then base of costa darkly suffused . . . . . 62
61. Irregularly sparsely speckled with black throughout . . . *subtilis* spec. nov.
- A row of costal dots, two elongate marks in disc, and one above base of dorsum . . . . . *vana* spec. nov.
62. Finely and densely irrorated with greyish-fuscous, edge of wing suffused with darker greyish-fuscous, moderate darker spots on  $\frac{1}{2}$  and  $\frac{3}{4}$  of costa, and a black point on closing vein . . . . . *oligosema* spec. nov.
- Not thus . . . . . 63
63. Preterminal spot erect-ovate, narrowly blackish-edged, well-defined throughout . . . . . 64
- Preterminal spot or mark not ovate, partially or entirely suffused or indefinite . . . . . 65
64. Preterminal spot greyish-brownish, little constricted . . . *phloeotis* spec. nov.
- Preterminal spot chestnut-brownish, rather narrow, stronger constricted . . . . . *sufflava* spec. nov.
65. Preterminal mark furcate . . . . . 66
- Preterminal mark not furcate or indefinite . . . . . 70
66. Preterminal mark with anterior arm two times or more longer than posterior 67
- Preterminal mark with anterior arm not so much longer than posterior 68
67. Preterminal mark with anterior arm reaching costa, costal dots not darker than other markings . . . . . *conioplegma* spec. nov.
- Preterminal mark not reaching costa; costal dots distinctly darker than other



- markings . . . . . *arachnodes* DIAKONOFF
68. A suffusion on base of costa, distinctly darker than other markings . . . . . *spectralis* MEYRICK  
 . . . . . 69  
 This suffusion, if present, not darker than other markings . . . . . 69
69. Preterminal mark elongate, distinctly V-shaped . . . . . *platyptila* spec. nov.  
 Preterminal mark rounded, less distinctly V-shaped . . . . . *halirrhothia* MEYRICK
70. Preterminal markings obliterate; two distinct black points along fold and an angulate slender black mark on end of cell . . . . . *spilonoma* MEYRICK  
 Preterminal mark present . . . . . 71
71. Preterminal mark brown . . . . . *latenota* spec. nov.  
 Preterminal mark grey . . . . . 72
72. Base of costa with a blackish transverse mark . . . . . *trachygrapha* spec. nov.  
 No such mark . . . . . *petraea* spec. nov.

***Schoenotenes xenographa* spec. nov. (fig. 420)**

$\xi\epsilon\nu\omicron\varsigma$  = strange,  $\gamma\rho\acute{\alpha}\varphi\omega$  = to write

♂ 16—22.5 mm. Head and thorax whitish, tinged and partially slightly suffused with pale ferruginous-brownish. Palpus whitish, tinged pale pink-brownish, median segment mixed above with dark ferruginous-brown; terminal segment rather long, slightly suffused with pale brownish. Abdomen whitish, tinged pale ochreous. Legs pale ochreous, anterior tibia and tarsus banded with grey above, median knee dark grey. Fore wing elongate-subtriangular, dilated, rather broad, scales raised along veins. Whitish, tinged very pale ochreous-brownish, markings dark ferruginous-brown. A gradually outwards-convex broad dark ferruginous-brown transverse band, from beyond base of costa to about  $\frac{1}{4}$  of dorsum, slightly narrowed below; base of wing stronger suffused with pale ochreous, slightly mixed with fulvous scales; a pair of small dots on costa beyond preceding band; central fascia indicated by three equidistant small dots on costa from before  $\frac{2}{5}$  to beyond middle, by an irregularly sinuate and interrupted line from about below first dot to dorsum beyond middle, by another such line, continuous, from below third dot obliquely to beyond cell, gradually considerably curved around closing vein to vein 3, and by a vertical narrow streak from  $\frac{3}{4}$  of dorsum, connected along base of vein 3 with the last mentioned line; on dorsum these lines tinged blackish-brown and connected by a small blackish-brown suffusion; some vertical transverse strigulation in middle of disc, indicating a straight line which connects top of second transverse line with first one above its base; a faint pale greyish-fuscous suffusion beyond cell, filling the above mentioned curve of transverse line; a narrow vertical line from dorsum before tornus almost touching preceding suffusion; two slightly curved, outwardly convex, tolerably parallel lines from beyond  $\frac{3}{4}$  of costa to  $\frac{2}{3}$  of tornus; a somewhat sinuate submarginal line from costa before apex to vein 4, connected there with the last mentioned parallel lines. Cilia creamy-whitish, dotted with dark brown (much damaged). Hind wing and cilia whitish touched with pale ochreous, the former semipellucant.

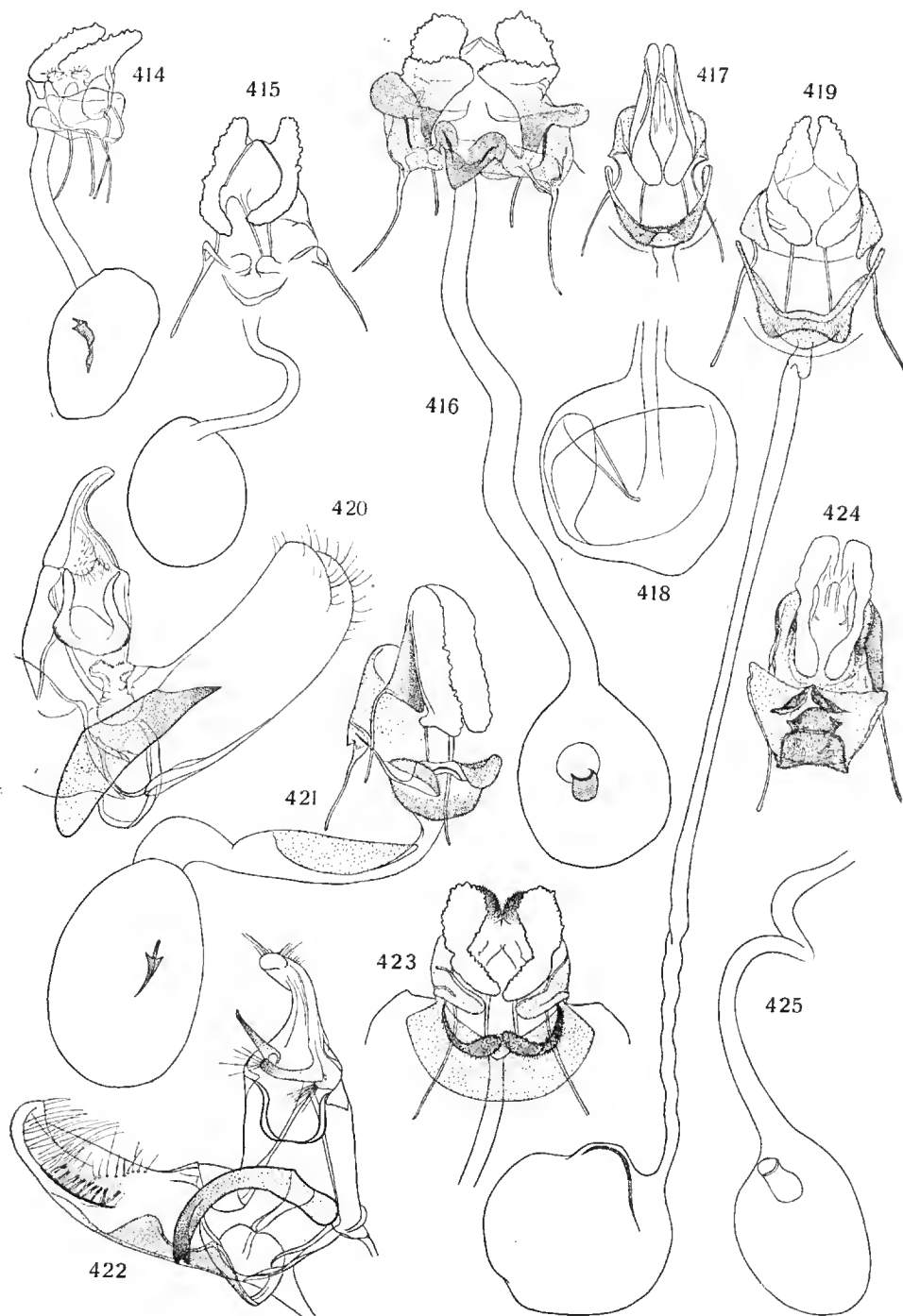
Tegumen elongate. Uncus with a moderate curved hook. Socius moderate, broad, pending. Gnathos strong, pending, towards top almost circularly curved, dilated and scobinate. Transtilla, a vertical submembraneous flap, T-shaped, finely dentate above. Valva elongate, simple, cucullus truncate, with a moderate longitudinal distal fold, sacculus  $\frac{1}{2}$ , narrow. Vinculum erect-ovate. Aedoeagus broad, little curved, orifice obliquely truncate, no cornuti. (Slide No. 680 D, holotype).

Moss Forest Camp, 2600—2800 m, October 9—November 5, 1938 (holotype, male). Sigi Camp, 1500 m, February 24, 1939. Two specimens. Allied to *S. paraptera* MEYRICK. Damaged, but distinct by postbasal transverse band.

**Schoenotenes oenographa** spec. nov. (fig. 415)

*οἶνος* = wine, *γράφω* = to draw

♀ 17 mm. Head and thorax whitish densely suffused, mixed and streaked longitudinally with dark wine-red, thorax less suffused posteriorly. Palpus fuscous-wine-red, basal segment and base of median segment below white. Abdomen light greyish, becoming darker fuscous-grey posteriorly. Legs whitish tinged pale fuscous, anterior and median tibia and tarsus banded with fuscous. Fore wing elongate-triangular, rather narrow, dilated; costa gradually but little curved, apex obtuse; termen sinuate, considerably oblique. White, partially finely irrorated and suffused with fuscous, tinged wine-red, posterior half densely evenly suffused with greyish-fuscous, tinged wine-red, markings fuscous-wine-red. Base of costal edge dark fuscous-wine-red, a triangular suffused patch on  $\frac{1}{4}$  of costa, below with a few narrow transverse strigulae; anterior  $\frac{4}{5}$  of dorsum with a streak of dark fuscous-wine-red suffusion, narrow anteriorly, with an angular projection above before  $\frac{1}{3}$  of dorsum, almost connected with the above mentioned costal mark, thence gradually narrowed posteriorly; a narrow dark fuscous-wine-red streak from middle of costa to  $\frac{4}{5}$  of dorsum, strongly angulate in middle, with a rounded patch of blackish scales on end of cell, lower fourth sinuate; preceded by ill-defined dark grey transverse strigulation in disc; a short almost blackish inwardly oblique transverse streak above fold from middle of disc to fold at middle of wing; a large regularly Y-shaped, deep brownish-wine-red mark before termen, slightly inwards-oblique, stalk from dorsum before tornus to vein 4, anterior arm concave, its upper half parallel to preceding transverse streak, running to costa beyond middle, almost connected with that streak above middle of wing, posterior arm more oblique than terminal edge, to vein 8, thence furcate: anterior branch gradually and strongly curved, merging in anterior arm of Y between veins 9—10, with two short vertical off-shoots from its middle to costa, posterior branch to apex, a dot before this branch on costa; a narrow vertical short line between transverse streak and stalk of Y-shaped mark on dorsum; costal fourth of wing posteriorly



Genitalia of Schoenoteninae. Fig. 414: *Schoenotenenes leptomorpha*, spec. nov., female. Fig. 415: *S. oenographa* spec. nov., female. Fig. 416: *Copidostoma chrysodoris* spec. nov., female. Fig. 417: *Metachorista loepa* spec. nov., female. Fig. 418: *idem*, bursa copulatrix. Fig. 419: *M. austera* spec. nov., female. Fig. 420: *Schoenotenenes xenographa* spec. nov., male. Fig. 421: *Metachorista mesata*, spec. nov., female. Fig. 422: *Schoenotenenes tineoides* spec. nov., male. Fig. 423: *S. triangulum* spec. nov., female. Fig. 424: *Metachorista ursula* spec. nov., female. Fig. 425: *idem*, ductus bursae and bursa copulatrix.

denser suffused with greyish-fuscos, tinged wine-red; subeircular spot of ground colour edged by Y-shaped mark paler whitish; plical tuft large, white. Cilia whitish, an antemedian row of wine-reddish dots, a transverse narrow dark strigula encircling apex. Hind wing greyish-fuscos, faintly tinged wine-reddish, cilia paler.

Ostium small. Linen, a weak short narrow band, slightly curved downward. Dorsal wall of ostium with two small circular plates in middle above. Ductus bursae rather short, very narrow. Bursa copulatrix spheroid. Ovipositor lobes narrow, erect. (Slide No. 685 D).

Moss Forest Camp, five km northeast of Lake Habbema, 2800 m, October 14, 1938. One specimen. Very distinct by markings of wine-reddish colour.

***Schoenotenes tineoides* spec. nov. (fig. 422)**

♂ 15 mm. Head and thorax creamy-white, the latter with a large central round black spot. Palpus white, median segment suffused with greyish-fuscos except towards extremities, darkest along upper edge. Abdomen glossy-white. Legs white, anterior tibia and tarsus dark greyish-fuscos, white-ringed. Fore wing roughish, with raised scales along veins and with tufts; elongate-ovate, little dilated, pointed; costa moderately curved throughout, apex rather pointed; termen faintly rounded, oblique. Creamy-white, markings fuscous-black. A rounded-triangular spot on base of costa, and a round one beyond this below fold; an oblique series of three spots beyond preceding, upper spot small, round, costal, lower spot large, round, subplical, middle spot irregularly erect, between these; a rounded moderate spot on costa beyond  $\frac{1}{4}$ , two points below and slightly beyond this; a large semioval spot on middle of costa and a still larger subtriangular spot, with angles rounded, in cell below preceding, a small rounded dot below this on  $\frac{1}{3}$  of fold; an almost vertical transverse series of four dots from  $\frac{3}{5}$  of costa to  $\frac{2}{3}$  of dorsum, first and second dots ovate, second smaller, just above cell, third and fourth dots rounded, third below cell; two black points between second and third dots, and one similar point beyond second dot; costal patch rather small, subtriangular, top to vein 8, a round white costal dot in middle and a short narrow appendix below posteriorly, running obliquely to vein 6; three erect-ovate transverse spots: on closing vein, in tornus and on termen between veins 3—6, tornal spot more rounded; two small costal marks in apex, a few minute points before apex in disc; three-four small round dots on middle of dorsum. Cilia white, an antemedian row of black points, becoming larger towards apex and forming blotches opposite costal markings. Hind wing and cilia white, with pale yellowish gloss.

Tegumen erect. Uncus with a moderate, little curved hook, top rounded; bristles at the sides above. Hamus strong, moderately long, little curved. Socius, a small brisled pad below hamus. Gnathos weak, broadly U-shaped,



pending, arms narrow. Transtilla membraneous. Valva moderate, narrowed; cucullus with a slender curved top, bristled and haired; sacculus 1, with two blunt projections in middle below, a row of bifid bristles posteriorly. Aedoeagus semicircular, top bifid. Anellus long. (Slide No. 688 D).

Sigi Camp, 1500 m, February 26, 1939. One specimen. Markings resembling those of a Tineid.

**Schoenotenes leptomorpha** spec. nov. (fig. 414)

*λεπτός* = slender, *μορφή* = shape

♀ 14—16 mm. Head and antenna light golden-ochreous, flagellum finely ringed with brownish. Palpus light golden-ochreous, median segment towards apex mixed with dark brown scales. Thorax brown, tegula ochreous, tip white. Abdomen light brownish-ochreous tinged greyish. Legs light ochreous, tarsi faintly ringed with brownish. Fore wing elongate-lanceolate, rather narrow, apex subobtusate, termen hardly concave, considerably oblique. Pale whitish-ochreous; a submedian broad transverse band of more or less interrupted ridges of raised blackish-brown scales; this band running outwardly oblique above, vertical beneath, in middle of wing projecting posteriorly by a moderate blackish-brown patch; transverse band broadly suffused with bright golden-ochreous, especially posteriorly, anteriorly blackish-brown colouring forming an acute horizontal projection below middle of wing, almost reaching base; a narrow transverse blackish-brown streak beyond base of costa almost to dorsum, followed on costa by four ill-defined transverse brownish lines; posterior half of costa with six blackish-brown dots, slightly transversely strigulated with ochreous below those; costal patch elongate-triangular, brightly golden-ochreous, on costa with three of the above mentioned dots, top edged by a narrow, blackish-brown line; an oblique transverse blackish-brown blotch beyond cell from vein 9 to tornus, abruptly narrowed below, suffused with ochreous anteriorly and above; a round blackish-brown patch before middle of termen, connected by a narrow line with termination of vein 3, by an ill-defined transverse ochreous strigulation with costal patch; dark brown points on ends of terminal veins. Cilia pale ochreous with broad interrupted antemedian deep ochreous shade. Hind wing and cilia pale golden-ochreous.

Ostium moderate. Limen broad, with two blunt rising projections above. Eighth segment forming a strong broad ring, interrupted ventrally, and two small short-haired pads above ostium. Collieulum indicated. Duetus bursae narrow. Bursa copulatrix small, spheroid. Signum, a weak folded plate with serrate edge. Ovipositor broad, tortricoid. (Slide No. 686 D, holotype, No. 718 D, paratype).

Iebèlè Camp, 2250 m, October 28, 1938 (holotype). Mist Camp, 1800 m, January 10, 1939, Two specimens. Allied to *S. neurobapta* (Lower, 1909).



**Schoenotenes triangulum** spec. nov. (fig. 423)

♀ 16 mm. Head whitish suffused with pale fuscous-grey. Palpus rather long, fuscous-greyish-whitish, base and tip white. Thorax whitish, densely suffused with light grey, a darker grey longitudinal median line, edges of thorax posteriorly and apex white, tegula edged with white. Abdomen pale grey-whitish. Legs whitish, anterior tibia and tarsus suffused with dark grey above, white-ringed. Fore wing with raised scales along veins and with tufts, elongate-subtruncate, rather broad, little dilated; costa gradually and moderately curved anteriorly, little curved posteriorly, apex subacute, termen tolerably straight, rounded beneath, moderately oblique. White, suffused and finely irrorated with grey along anterior half, irrorated with dark fuscous posteriorly, markings dark fuscous. A cloudy grey suffusion along  $\frac{3}{5}$  of costa, with lower edge rather well-defined, horizontal, running slightly above middle of disc to beyond  $\frac{1}{4}$  of wing length; termination of this suffusion almost rectangular, its posterior edge strongly suffused, paler above; a series of suffused dark grey small dots along costa; rather faint grey retination and transverse strigulation along dorsum to before tornus, with a faint narrow vertical projection to above middle of disc at  $\frac{1}{3}$  and beyond middle, respectively, latter projection interrupted; a large erect-triangular suffused light greyish-fuscous costal patch, from beyond  $\frac{2}{5}$  to before apex, top to base of vein 6; this patch narrowly edged anteriorly, broadly posteriorly, with blackish-fuscous, with four costal dots of the same colour, first and last on angles of patch, second and third continued by a narrow blackish-fuscous streak with lower edge of patch; irregular fuscous irroration on posterior third of wing with anterior edge straight, and running from top of costal patch to tornus; this irroration arranged posteriorly in more or less distinct rows parallel to termen; terminal edge with a narrow fuscous line, slightly dilated on terminations of veins. Cilia white with an antemedian row of suffused fuscous points. Hind wing and cilia white, palely touched with yellowish.

Ostium rather wide. Limen forming a broad ovate ventral band with two concave, semioval, short-bristled pads above. Ductus bursae narrow, very long. Bursa copulatrix large, spheroid. Ovipositor lobe elongate-reniform, distal half thickened. Signum absent. (Slide No. 684 D, holotype).

Mist Camp, 1800 m, January 10, 1939 (holotype), January 12, 1939. Sigi Camp 1500 m, February 26, 1939. Three specimens.

**Schoenotenes infuscata** spec. nov. (figs. 436, 444)

♂ 18—21 mm, ♀ 22 mm. Head sordid whitish, tinged pale greyish, tufts darker grey. Palpus moderate, porrect, straight; whitish, laterally mixed and suffused with light fuscous. Thorax light fuscous-grey, in female paler, tegulae isabel-coloured, slightly mixed with pale fuscous. Abdomen pale ochreous-whitish. Legs isabel-coloured, anterior tibia and tarsus infuscated, pale-ringed. Fore wing elongate-subovate, little dilated, costa gradually

curved throughout, less so posteriorly, apex subacute in male, less acute in female, termen hardly convex above, gradually rounded, rather oblique. Light isabel-coloured, densely retinate and transversely strigulated with greyish-fuscous and pale fuscous; somewhat darker and more pronounced are: a row of numerous dots along costa, confluent in a small suffusion towards base, an interrupted transverse little oblique straight line before  $\frac{1}{4}$  of wing, and dotting on middle of cell, and along its lower edge posteriorly; preterminal strigulation forming a rather distinct slender vertical short-stalked, Y-shaped mark from termen above tornus to costa. Cilia isabel-colour. Hind wing and cilia glossy-white.

Tegumen strongly concave, almost conical, narrowed. Uncus strong, angulate above middle, forming a porrect bipartite beak, angulation with a brush of strong bristles above. Socius small, pending, with long bristles along upper edge. Gnathos porrect, arms extremely short, slender, ending in a hexagonal plate. Transtilla absent. Valva moderate, elongate-subovate, costa with an angulate short basal projection, sclerotized and dilated posteriorly, sacculus with a small patch of dense blunt bristles in middle above. Aedoeagus slender, straight. Cornuti absent. (Slide No. 671 D, holotype).

Genital segment in female sclerotized, ostium moderate. Limen very broad, simple: upper edge gradually concave, lower almost straight, rounded at the sides. Ductus bursae very narrow, long. Bursa copulatrix small, simple. Ovipositor lobe reniform, upper part gradually dilated, lower moderate. Signum absent. (Slide No. 672 D, allotype).

Moss Forest Camp, 2600—2800 m, October 31, 1938 (holotype, male, allotype, female). Iebèlè Camp, 2250 m, December 1, 1938. Two males, one female.

*Schoenotenes farinata* spec. nov. (figs. 431, 432)

♂ 16.5 mm, ♀ 16 mm. Head and thorax sordid whitish, suffused and mixed with fuscous-greyish, scape of antenna grey above. Palpus rather slender, whitish; median segment suffused with fuscous, grey except basal half of lower edge; terminal segment mixed with fuscous-grey. Abdomen whitish. Legs whitish, anterior tibia and tarsus blackish, white-ringed. Fore wing elongate-subovate, costa curved anteriorly, less so posteriorly, apex subobtuse, termen slightly sinuate, moderately oblique. Whitish, faintly tinged greyish-fuscous, transversely strigulated with rather light fuscous, brighter fuscous in disc, darker and more greyish-tinged towards costa, apex and dorsum. About nine greyish costal dots, becoming larger posteriorly, a rounded ill-defined spot below middle of costa and an elongate darker patch of grey transverse strigulation below sixth to eighth costal dots, uniting these; a narrow greyish transverse line from below  $\frac{1}{5}$  of costa to  $\frac{2}{5}$  of dorsum, followed by another, slightly sinuate, more oblique line, from below costa beyond preceding line to middle of dorsum; a third darker grey line, almost obliterate in male, from about  $\frac{3}{5}$  of costa

vertical to cell, encircling cell posteriorly, to dorsum before tornus, deeply angulate anteriorly just below cell, thence rounded; space between this line and preceding line filled with darker fuscous-greyish irroration which is faintly continued along dorsum to base of wing; first and second transverse lines thickened, and coloured brighter brownish-fuscous in disc; a rather slender preterminal mark of dark grey narrow transverse fasciae, forming a Y in male, an erect-ovate mark in female, connected by a vertical branch above with grey subcostal strigulation; two minute transverse greyish lines before apex. Cilia whitish, faintly tinged fuscous, an antemedian series of fuscous bars. Hind wing and cilia glossy white, in female former faintly tinged with ochreous, especially along base.

Tegumen concave, subconical. Uncus moderate, ending in a gradually curved robust hook, with an abruptly narrowed apex and a brush of strong spines above this dorsally. Socius small, pending. Gnathos robust, arms broad and strongly dilated, angulate beyond middle, top truncate, each arm ending in a flattened hook above. Transtilla rather narrow; a vertical, very broad labis, ventrally with a curved hook. Valva rather short, semiovate, strongly concave; costa distinct, narrow, cucullus subobtnse; sacculus with a strong terminal pad covered with bifid bristles. Aedoeagus strongly curved, semicircular, slender. (Slide No. 674 D, holotype).

Genital segment sclerotized. Limen broad, lower edge excavated laterally, with a deep triangular incision in middle, upper rim of this incision folded, upper edge with a thickened, finely scobinate moderate pad at each side; dorsally this segment forms two elongate transverse lobes. Ductus bursae rather narrow, simple. Bursa copulatrix simple. Ovipositor almost cylindrical, lobes broad. (Slide No. 675 D, allotype).

Top Camp, 2100 m, January 25, 1939 (holotype, male). Sigi Camp, 1500 m, February 26, 1939 (allotype, female). One male, one female. Closely allied to the preceding species, differing by the absence of a dorsal patch of darker cloudy grey irroration, and by the genitalia.

**Schoenotenes oligosema spec. nov. (fig. 433)**

*ὀλίγον* = little, *σημα* = a marking

♀ 19 mm. Head, palpus and thorax sordid pale greyish-fuscous, palpus somewhat darker. Abdomen white. Legs whitish tinged ochreous, anterior tibia and tarsus infuscated. Fore wing elongate-subtriangular, dilated, costa considerably curved anteriorly, slightly prominent at  $\frac{3}{4}$ , gently curved before apex; apex rather pointed, slightly projecting, termen sinuate, considerably oblique. Whitish, densely irrorated and speckled with light fuscous; markings somewhat darker, suffused and ill-defined. Costa with a row of faint cloudy fuscous dots, a small suffusion along basal fifth, indicating a narrow transverse short line pointing towards tornus; denser irroration along costa, termen and dorsum; a faint small fuscous

triangular spot on  $\frac{3}{4}$  of costa; discal tuft small, white anteriorly, dark fuscous posteriorly; a small dark fuscous tuft on closing vein, preceded by white scales; a faint elongate patch of preterminal suffusion parallel to edge of wing, from above tornus to below apex. Cilia dirty whitish, light fuscous in tornus, an antemedian row of light fuscous dots, fuscous bars on costa and below apex. Hind wing and cilia glossy white.

Limen very broad, with a pair of raised slender appendages in middle of upper edge, fine-haired. Seventh ventrite with a transverse triangular plate, with lower edge excavate in middle. Ductus bursae rather long. Bursa copulatrix simple. Ovipositor lobe elongate-reniform, narrow, upper half with a rounded dorsal pad. Signum absent. (Slide No. 720 D).

Letter Box Camp, valley four km east of Wilhelmina Top, 3600 m, September 12, 1938. One specimen.

***Schoenotenes rubiginosa* spec. nov. (figs. 427, 428)**

♀ 18 mm. Head and thorax pale grey-whitish, touched with pale ochreous, posterior half white, apical tuft pale fulvous. Palpus white, an oblique fascia across median segment, and a ring on terminal segment, light greyish-fuscous. Abdomen whitish, slightly infuscated above. Legs whitish, anterior and median tibia and tarsus suffused and banded with black, anterior tarsus tinged bronze. Fore wing with veins raised, roughish; broad, dilated, triangular-ovate; costa considerably curved anteriorly, less curved posteriorly, apex subobtuse, termen straight above, rounded beneath, little oblique. Creamy-white. Basal  $\frac{2}{5}$  of costa with four dark greyish-fuscous dots, first dot larger, with a minute longitudinal dark brown streak below; edge of basal patch indicated by a straight oblique row of ferruginous-fuscous dots, from below costa between second and third costal dot, to  $\frac{2}{5}$  of dorsum: a broad invert-trapezoid transverse patch of coarse retination extending on costa from  $\frac{2}{5}$  to  $\frac{5}{6}$ , on dorsum from middle to before  $\frac{3}{4}$ ; along costa greyish-fuscous, in disc light fulvous, dorsal third blackish; three transverse small wedge-shaped greyish streaks on posterior third of costa, becoming smaller towards apex; dark fuscous slightly outwardly curved strigulae: one vertical from tornus to lower angle of cell, and two oblique strigulae preterminal, tending to coalesce in an ovate preterminal mark from vein 8 to vein 3, with a minute projection below to termen above tornus; terminal edge with a row of minute ferruginous-fuscous marginal streaks between veins. Cilia white, basal half creamy-white, an antemedian row of triangular ferruginous-fuscous dots. Hind wing with veins 3 and 4 connate; light greyish-fuscous, more infuscated in apex, cilia white.

Ostium moderate, circular. Eighth segment strongly sclerotized, forming a high collar dorsally, with upper rim invaginated, a few large bristles at the sides; ventrally two strong arms support ostium and touch each other in middle. Limen situated ventrally of these arms: straight, upper edge



with slight projections at the sides, ventral rim forming a crescentic fold in middle, with triangular projections at its sides below. Ductus bursae rather short. Bursa copulatrix small, simple. Seventh ventrite somewhat sclerotized. Ovipositor subtubular: upper lobe narrowed, lower very broad, little separated. (Slide No. 653 D).

Moss Forest Camp, 2600—2800 m, October 9—November 5, 1938. One specimen. Distinct by the infuscated hind wing.

**Schoenotenes megalops** spec. nov. (figs. 426, 434, 435)

*μέγας* = large, *ὄψ* = an eye

♂ 18—22 mm, ♀ 22 mm. Head white, vertex and antenna touched with pale ochreous, scape suffused with light grey, flagellum grey-ringed. Thorax pale ochreous-whitish, irrorated with pale grey, in male entirely suffused with greyish, except on patagium. Palpus white, suffused with grey laterally, except edge; terminal segment grey except tip. Abdomen pale whitish-ochreous in male, whitish in female. Legs white, anterior tibia and tarsus blackish, light-ringed. Fore wing with raised scales along veins, tufts present, rather broad; elongate-subovate, dilated, costa considerably curved throughout, less so posteriorly, faintly flattened in middle; apex subobtuse, termen very faintly sinuate, little oblique. Creamy-white, faintly touched with pale fulvous, except along dorsum and tornus, markings black, dark grey, light brownish-ochreous, and pale fuscous. Base of costa suffused with dark grey, with a transverse black mark slightly dilated above and below, mixed below with bright brown, and with a few ochreous scales; two transverse narrow streaks mixed with black scales on costa beyond this mark, to vein 12, continued by suffused brownish-ochreous narrow and very oblique streaks, interrupted on vein 12: first streak short, second streak considerably dilated, irregularly mixed with ochreous and darker brown scales, running to fold somewhat beyond middle of wing; a moderate round spot of dark grey suffusion on costa before middle, with a black dot on costa, a smaller dot on its anterior, a minute dot on its posterior edge; this spot below slightly mixed with pale brownish scales; a slightly oblique elongate-quadrate black patch on middle of dorsum in male, formed by interconnected transverse coarse strigulation, reaching slightly above fold; this patch in female evenly black, erect-quadrate, slightly beyond middle of dorsum, reaching above almost to cell; in both sexes this patch connected with preceding oblique brownish-ochreous streak which ends in brownish-ochreous plical tuft; faint grey vertical transverse strigulae, rising from black dorsal patch posteriorly, dissolved in faint grey dotting towards costa; pale fulvous-ochreous ridges and tufts of raised scales; a transverse oblique ridge across cell preceding oblique ochreous-brownish streak and ending in plical tuft; a less distinct ridge along upper edge of cell, ending in a tuft on closing vein; posterior half of costa with five round dark grey dots,



second and third connected by a cloudy grey suffusion reaching almost to vein 8, its anterior edge marked with a small brown, black-edged dot between veins 9—10; an irregular slender light fuscous Y-shaped preterminal mark, arms strongly sinuate and parallel above, to vein 8, anterior arm sometimes indistinct, stalk narrow, to termen above tornus; a short suffused vertical light-fuscous mark in tornus; costa between markings minutely dotted with blackish; a minute marginal dark grey line in apex; faint transverse greyish strigulation all over wing, turning pale fuscous posteriorly. Cilia creamy-white, a faint antemedian row of blackish points. Hind wing white with a golden gloss, faintly marbled with pale greyish towards apex, cilia glossy white.

Tegumen elongate, concave, narrowed. Uncus rather narrow, a strong terminal projection ending in a club with a spike beneath, and a pencil of long bristles above. Socius small, pending, with a strong sclerotized pending projection at its base, constricted before middle; top of socius rounded. Gnathos strong, moderately long, arms little dilated, hook moderate, acute. Transtilla strong; a slightly bent transverse rod, with a large rising labis at each side, shaped as a finely corrugated concave semicircular plate with serrulate edge. Valva semioval, thickened, cucullus obtuse, with bifid flattened bristles, sacculus with a terminal thickening covered with stout bifid bristles. Anellus strong, triangular. Aedoeagus slender, curved, rather short. (Slide No. 677 D, holotype).

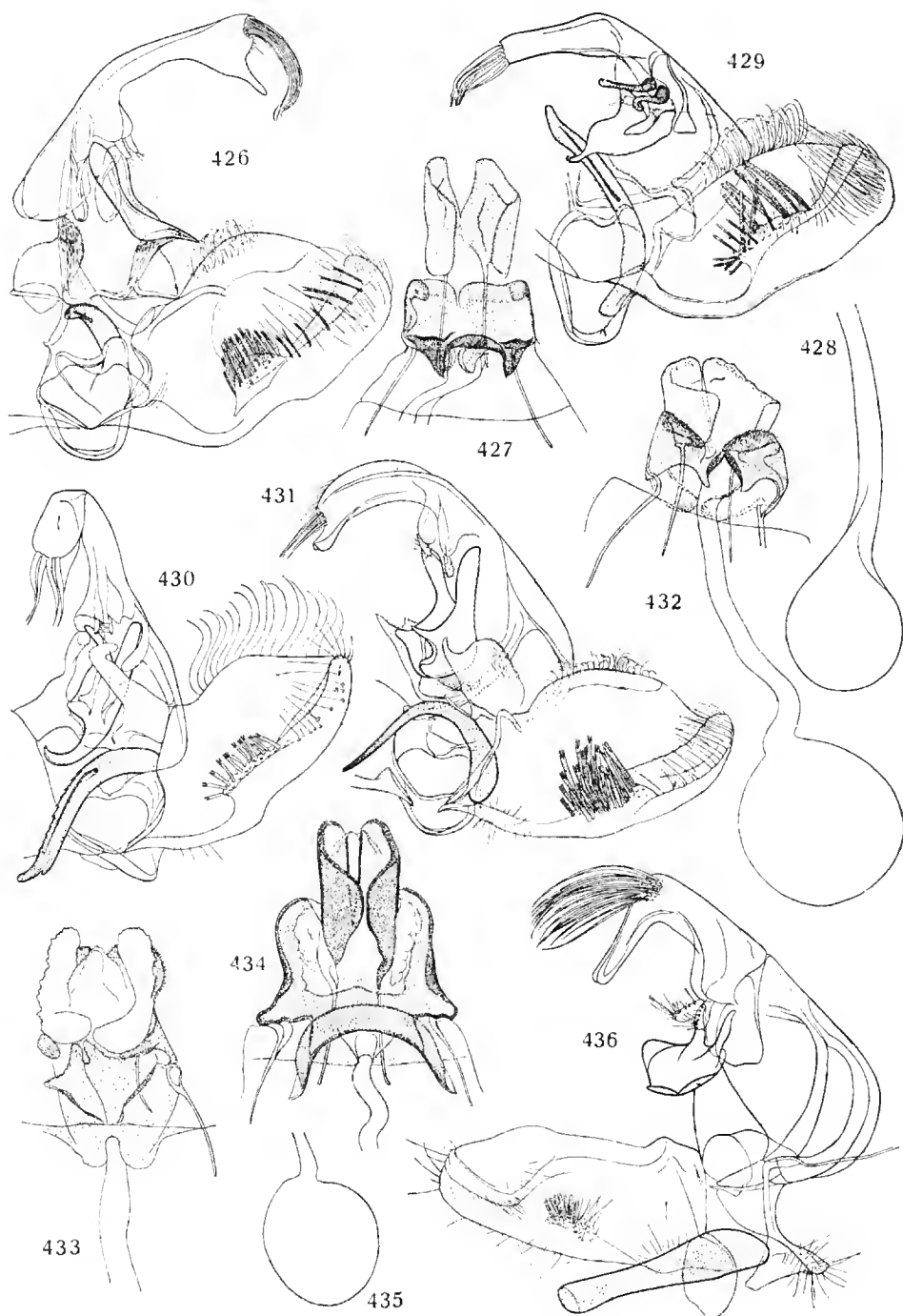
Ostium funnel-shaped, small. Limen, a transverse band, strongly curved downward, narrowed laterally. Eighth segment very strong, thickened, sclerotized, cylindrical, base dilated, a broad rectangular incision ventrally. Ovipositor narrowly cylindrical, dorsal lobes very long. Ductus bursae and bursa copulatrix simple. (Slide No. 678 D, allotype).

Moss Forest Camp, five km northeast of Lake Habbema, 2800 m, October 15, 1938 (holotype, male), October 26, 1939 (allotype, female) and October 13, 1938. Two males, two females.

***Schoenotenes sitochema* spec. nov. (fig. 430)**

$\sigma\tau\omicron\varsigma$  = flour,  $\chi\rho\omega\mu\alpha$  = colour

♂ 19 mm. Head and thorax whitish-grey, tinged pale fuscous. Palpus whitish-grey, median segment towards base above and towards apex below, suffused with fuscous. Abdomen creamy-whitish. Legs whitish, anterior tibia and tarsus infuscated, pale-ringed. Fore wing elongate-subovate, little dilated, costa gradually curved throughout, apex subacute, termen straight, moderately oblique. Pale greyish-white, with raised scales along veins, tufts present; irrorated, transversely strigulated and reticulate with pale fuscous-greyish, markings darker greyish, fuscous-grey and light fulvous-orange. Base, especially towards costa, suffused with light fuscous-greyish; costa with a small dot on base, a transverse invert-T-shaped mark beyond this, and about nine somewhat suffused elongate-ovate dots



Genitalia of *Schoenotenes* MEYRICK. Fig. 426: *megalops* spec. nov., male. Fig. 427: *rubiginosa* spec. nov., female. Fig. 428: *idem*, bursa copulatrix. Fig. 429: *metagrapha* spec. nov., male. Fig. 430: *sitochroma* spec. nov., male. Fig. 431: *furinata* spec. nov., male. Fig. 432: *idem*, female. Fig. 433: *oligosema* spec. nov., female. Fig. 434: *megalops* spec. nov., female. Fig. 435: *idem*, bursa copulatrix. Fig. 436: *infuscata* spec. nov., male.

from beyond this mark to apex; these dots gradually becoming larger posteriorly, seventh and eighth somewhat triangular, all alternating with fine strigulae; first and second dots each with a small greyish suffusion below costa; a somewhat larger subtrapezoid suffusion below fourth dot on middle of costa, connected posteriorly with a large light greyish-fusca suffusion on posterior half of cell which extends across  $\frac{3}{5}$  of wing from vein 10 to 4, and is angulate posteriorly; dark fuscous transverse strigulation along middle of lower edge of cell, followed below by some coarse transverse dark fuscous striae on middle of dorsum; these marks together indicating central fascia, which is preceded by a pair of faint sinuate greyish transverse lines from about  $\frac{1}{4}$  of costa to dorsum before middle; a rounded tuft of raised scales on cell in middle of wing, light fulvous-orange; indistinct narrow transverse curved dark fasciae on dorsum before tornus and in tornus; costal patch indicated by seventh and eighth costal dots and a semicircular grey line uniting them below, filled with greyish except along costa; a greyish-fusca preterminal irregularly Y-shaped mark, with anterior arm short, posterior arm and stalk running from termen just above tornus to vein 8, somewhat dilated above; a transverse strigula before apex. Cilia creamy-white, an antemedian row of dark fuscous dots. Hind wing and cilia glossy white.

Tegumen moderate, narrowed. Uncus with rather narrow base, and moderately broad curved hook with ribbon-like bristles at the top, which is slightly dilated and rounded. Socius very small, pending. Gnathos long, arms rather broad, angularly dilated in middle, hook long, curved. Transtilla intricate: a strong transverse bar and long, rather narrow labides at the sides with hooked tops. Valva elongate-ovate, concave, costa and cucullus densely haired, cucullus excavate, sacculus over  $\frac{1}{2}$ , rather weak, ending in an elongate patch of stout furcate bristles. Vinculum small, angulate. Aedoeagus slender, curved, upper edge serrate, a longitudinal narrow split from middle to before apex. No cornuti. (Slide No. 669 D).

Moss Forest Camp, 2800 m, November 1, 1938. One specimen. Closely resembling *S. metagrapha* spec. nov., but larger, more fuscous-tinged; also allied to *S. sitochroma* spec. nov.; distinct by the fulvous scale-tuft in disc.

***Schoenotenes metagrapha* spec. nov. (fig. 429)**

*meta* = behind, *γράφω* = to draw

♂ 15 mm. Head and thorax creamy-white, the latter slightly mixed with pale grey. Palpus moderate, white, median segment with upper edge suffused with dark grey, and with a subapical greyish band, open below. Abdomen pure white. Legs white, anterior tibia and tarsus suffused with grey above, light-ringed. Fore wing with slightly raised scales along veins, tufts present, elongate-subovate, dilated, costa considerably curved throughout, apex subobtusate, termen hardly sinuate above, rounded

beneath, moderately oblique. Creamy-white, faintly suffused with pale fuscous, markings light grey. Base of costa with a moderate triangular patch to base of vein 12; about nine costal marks beyond this patch, three anterior dots small, continued as narrow oblique lines to vein 12, other dots moderate subtriangular or semicircular, two preapical dots smaller; costal markings alternating with minute transverse strigulae; central fascia indicated by a small suffused patch below costa before middle, and an ill-defined broad blotch of transverse strigulation on middle of dorsum; this blotch slightly inwardly oblique, reaching to middle of disc, sometimes connected with preceding markings by faint fuscous-greyish suffusion, sometimes almost entirely obliterate; an elongate group of about four suffused greyish dots below  $\frac{1}{4}$  of costa, indicating costal patch posteriorly, giving rise to two narrow, sinuate greyish lines; these lines slightly dilated on veins, almost vertical, running to tornus and to termen above tornus respectively, posterior line forming a small circle in its middle; a faint transverse line on  $\frac{2}{5}$  of dorsum to fold; wing between markings rather sparsely transversely strigulated and irrorated with greyish, except on anterior third; a broad ridge of thick moderately raised scales on furcation of vein 1b. Cilia white, an antemedian row of blackish elongate marks. Hind wing and cilia glossy-white.

Tegumen deeply concave, angularly bent below middle. Uncus moderate, forming a rather broad porrect blunt projection, crowned with strong sinuate ribbon-like bristles. Hamus slender, porrect, top hooked laterad. Socius minute. Gnathos moderate, porrect, semioval, arms very broad, united in a slender terminal hook. Transtilla moderate, sinuate. Valva semiovate, concave, costa haired, cucullus forming a rounded knob, sacculus over  $\frac{1}{2}$ , with an elongate thickening terminally, covered with strong, long bristles. Aedocagus slender, moderately curved anteriorly, finely scobinate posteriorly. Cornutus, a strong spine. (Slide No. 673 D, holotype).

Balicm Camp, 1600 m, December 8, 1938 (holotype), December 9, 1938. Mist Camp, 1800 m, January 7, 1939. Rattan Camp, 1200 m, March 4, 1939. Five specimens. Allied to *S. paraptera* MEYRICK.

***Schoenotenes pallida* spec. nov. (fig. 445)**

♀ 19 mm. Head and thorax whitish-grey, touched with pale ochreous. Palpus long, ascending, whitish, median segment with a broad fuscous-grey median suffusion except below. Abdomen ochreous-whitish, towards base silvery-white. Legs whitish, anterior tibia and tarsus dark grey above, white-ringed. Fore wing elongate-subovate, dilated; costa curved throughout, more so anteriorly; apex subobtusate, termen slightly rounded, almost vertical. Sordid whitish, touched with pale ochreous along anterior half, marbled and transversely strigulated with pale grey, less distinctly on terminal fourth. Base of costa with an invert-T-shaped black mark,



followed by about nine rather dark grey dots, alternating with minute transverse strigulae, becoming paler and slightly larger posteriorly, four posterior dots slightly transversely elongate; a faint pale grey suffusion below middle of costa, traceable to upper angle of cell; an invert-trapezoid discal spot of blackish irroration on cell before middle of wing, and a series of four blackish transverse strigulae beyond this above fold, becoming much broader and pale grey below fold, to dorsum before tornus; a faint grey suffusion connecting sixth and seventh costal dots below costa, indicating costal patch; a narrow blackish line along closing vein, followed by an ill-defined row of blackish scales from costal patch to tornus, indicating a vertical transverse strigula; a blackish Y-shaped mark before tornus from vein 4 to 7, with anterior arm broader, stalk almost obliterate, to termen above tornus; a marginal grey streak in apex. Cilia white, a faint antemedian row of greyish dots. Hind wing and cilia glossy-white.

Ostium narrow. Limen forming a very strong horizontal semioval plate at each side, separated by a split in middle, central edge curved. Two curved narrow bristle-like spines in dorsal wall of ductus bursae below ostium. Ductus narrow, moderately long. Bursa copulatrix small. Signum, a small, strong, deeply corrugated plate. Ovipositor lobe tortricoid. (Slide No. 665 D).

Iebèlè Camp, 2250 m, November 17, 1938. One specimen. Allied to the preceding.

***Schoenotenes trachygrapha* spec. nov. (fig. 478)**

*τραχύς* = coarse, *γράφω* = to draw

♀ 21 mm. Head whitish. Antenna whitish, ringed with fuscous, scape with a median grey ring. Palpus white, median segment suffused with grey except apex and lower edge (terminal segment broken). Thorax creamy-white, densely mixed with grey except apical third and posterior half of tegula. Abdomen ochreous-whitish. Legs whitish, anterior tibia and tarsus suffused with dark grey. Fore wing with slightly raised scales along veins, tufts small (possibly rubbed); elongate-ovate, little dilated, costa gradually curved anteriorly, less curved posteriorly, apex subobtusate, termen hardly concave above, slightly rounded beneath, little oblique. White, slightly irrorated with greyish, markings blackish, partially faintly edged with yellowish suffusion. Base of costa slightly suffused with dark grey, a transverse mark beyond base edged with yellow below; a small invert-trapezoid spot below fold, mixed with yellowish, extended along fold, connected below with a grey suffusion extending along anterior  $\frac{2}{5}$  of dorsum, beginning from beyond base; a narrow oblique transverse streak of black and yellowish irroration from costa beyond preceding markings, to posterior end of grey dorsal suffusion above mentioned, connected in fold with subapical spot; central fascia formed by a small

rounded spot on middle of dorsum, greyish, black-edged; a somewhat oblique small spot on cell, connected above by a narrow interrupted fascia with costa beyond  $\frac{1}{4}$  and below by transverse lines of black irroration with a moderate grey suffusion on dorsum beyond middle not reaching tornus; these markings suffused with yellowish in disc, especially in fold; two small round blackish-grey dots on base of veins 8 and 9 respectively; costal patch U-shaped, connecting two costal dots, slightly projecting below anteriorly; below this a faint greyish-yellowish transverse suffusion in disc, marked with blackish on veins; a faint yellowish tinge on transverse vein, almost connected with grey dorsal suffusion; a vertical moderate mark of blackish and yellowish irroration on dorsum before tornus; a large preterminal blackish mark consisting of two interconnected vertical erect-truncate blotches between veins 3—6 and 6—8, respectively, upper blotch posterior; costa between markings with black points, two dark grey dots before apex. Cilia white, an interrupted antemedian fascia. Hind wing and cilia glossy-white.

Ostium wide. Limen strong, sides plicate, two narrow straight transverse ridges in middle. No colliculum. Ductus bursae short, lower half sclerotized, with regular longitudinal folds. Genital segment forming a broad, pubescent collar dorsally and laterally. Ovipositor lobe curved, dilated distally, a large erect-ovate smooth dorsal lobe. Anus conical, orifice bristled. (Slide No. 668 D, holotype).

Mist Camp, 1800 m, January 17, 1939 (holotype). Rattan Camp, 1200 m, March 1, 1938. Two specimens.

*Schoenotenes affinis* spec. nov. (fig. 451)

♀ 16 mm. Head pale whitish-fuscous. Palpus moderate, slender, porrect; whitish, suffused with greyish except towards base below and towards apices of median and terminal segments. Thorax sordid whitish? (denuded). Abdomen pale whitish-ochreous. Legs whitish, anterior tibia tinged ochreous, anterior and median tarsus suffused with fuscous-grey, pale-ringed. Fore wing with raised scales along veins, tufts present; elongate-subovate, rather little dilated, costa curved at extremities, less so posteriorly, straight in middle, apex subacute, termen gently convex, rather oblique. Whitish, finely irrorated with pale grey, markings black on costa, blackish-fuscous in disc. About nine unequal black dots along costa, first dot forming a transverse mark somewhat constricted in middle, second and third also transverse, very small; base of costal edge suffused with grey; an ill-defined interrupted transverse band of blackish irroration from below third costal dot to above  $\frac{1}{3}$  of dorsum, preceded by a rounded spot of the same irroration below fold; about three rounded spots of blackish-fuscous irroration below middle of costa, median one largest; two round dots below upper edge of cell, in its middle, and at  $\frac{3}{4}$ , respectively, some irregular irroration between these; an outwardly oblique

series of dark spots from below  $\frac{3}{4}$  of costa to dorsum before tornus, arranged thus: two rounded spots below costa, a transverse mark in middle of disc and some four round dots in a strongly outwards-convex row above dorsum; preterminal mark formed by a curved row of irregular dots from below penultimate costal dot to below vein 4 before termen, dot between veins 7—6 much larger than others, quadrate; this row preceded by an erect-ovate vertical spot between veins 6—4, with lower extremity adjacent to two lower preterminal dots. Cilia white (imperfect). Hind wing and cilia glossy-white, touched with golden-yellowish, a hardly perceptible greyish spot on costa before apex.

Ostium simple. Limen very narrow, weak, rounded; genital segment with flattened plicate shoulders laterally, which are pubescent. Ductus bursae short, moderately broad. Bursa copulatrix moderate. No signum. Ovipositor cup-shaped, lobes narrow, curved. Eighth segment forms a sclerotized collar with a long ovate dorsal lobe, a plicate pubescent body ventrally. (Slide No. 667 D).

Top Camp, 2100 m, January 25, 1939. One specimen.

*Schoenotenes subtilis* spec. nov. (fig. 449)

♀ 14 mm. Head, thorax and abdomen whitish. Palpus fuscous, base and terminal segment whitish. Legs whitish, anterior dark fuscous above, articulations paler. Fore wing elongate-subtriangular, narrow, dilated; costa moderately curved anteriorly, straight posteriorly, apex pointed, termen hardly sinuate, strongly oblique. Whitish, faintly irrorated with pale fuscous, markings black. A row of minute points along  $\frac{4}{5}$  of costa; four black points along vein 12 from base to costa; an oblique straight row of small dots from below  $\frac{1}{3}$  of costa to dorsum before tornus, another similar row along fold, and an isolated dot in middle of disc at  $\frac{1}{3}$ ; a row of somewhat larger black dots from middle of costa to termen above tornus, including a group of scattered black scales just beyond end of cell, followed by a less oblique series of two, and another series of three black dots at  $\frac{1}{3}$  and  $\frac{2}{3}$  between cell and apex, and a series of black points from  $\frac{3}{4}$  of cell to vein 9 between those two series of dots; some marginal dotting above and below apex. Cilia whitish-fuscous, suffused with darker fuscous towards apex. Hind wing and cilia greyish-whitish.

Limen membranous, with a small curved longitudinal fold at each side. Eighth segment forming a broad submembranous fine-haired ring with a transverse ventral plate. Ductus bursae short, with a moderate cestum. Bursa simple. Ovipositor lobe slender, dorsal pad small, rounded. (Slide No. 721 D).

Scree Valley Camp, 3800 m, September 16, 1938. One specimen.

*Schoenotenes vana* spec. nov.

♂ 15 mm. Head and thorax white (much damaged). Palpus light fuscous-greyish, median segment with a suffused median dark grey mark

above, apex white, terminal segment with a small median grey dot above. Abdomen whitish (posterior part missing). Legs whitish, anterior tibia and tarsus dark fuscous, white-ringed. Fore wing elongate, narrow, gradually dilated, costa moderately curved throughout, apex obtuse, termen straight, oblique. White, touched with pale ochreous, partially irrorated with olive-ochreous, markings black. Costa slightly suffused with grey anteriorly, with a row of small black dots throughout, becoming largest towards  $\frac{3}{4}$ ; a moderate horizontal elongate patch of black irroration below fold before  $\frac{1}{4}$  of wing, connected below with coarse dark grey transverse strigulation which extends along dorsum from beyond base to tornus; an outwardly oblique transverse elongate irrorated patch in cell beyond middle, black above, olive below; this patch connected posteriorly with a faint narrow transverse fascia of olive irroration mixed with black scales, that are especially dense along posterior edge; this fascia beginning with two black points on middle of costa, and ending in a semioval patch of grey suffusion and black transverse strigulation below fold on dorsum beyond middle; a dark grey small patch in upper half of cell posteriorly, extending beyond closing vein; dark brownish irroration below  $\frac{3}{4}$  of costa turning olive below and almost connected with preceding; an erect-ovate spot of olive irroration in tornus, slightly inwardly oblique, to vein 4; a somewhat sinuate olive preterminal patch, with narrow base, from termen above tornus almost to costa. Cilia white. Hind wing and cilia pure white.

Top Camp, 2100 m, January 24, 1939. One specimen. Damaged, but quite distinct by the small size and by markings.

**Schoenotenes chalcotypa** spec. nov. (fig. 448)

*χαλκοτύπος* = coppersmith

♀ 19 mm. Head and thorax white, mixed with greyish-fuscous, patagium and tegula densely suffused with greyish. Palpus rather long, greyish-fuscous, apex and upper edge of median segment, and base of terminal segment white. Antenna fuscous, scape white. Abdomen pale ochreous-greyish. Legs whitish, anterior and median tibia and tarsus banded with pale greyish. Fore wing with ridges of raised scales along veins, plical and discal tufts large. White, markings dark fuscous and black, suffused with light yellowish-ochreous. Basal  $\frac{3}{4}$  of costa with a row of moderate black dots alternating with smaller ones; basal patch moderate, suffused with light yellowish-ochreous, edged by a straight moderate dark fuscous fascia from  $\frac{1}{5}$  of costa to  $\frac{1}{3}$  of dorsum; a patch of light yellowish-ochreous suffusion from below  $\frac{2}{5}$  of costa to middle of disc beyond cell, with upper edge bearing a few blackish dots; posterior half dilated and sharply edged by a dark fuscous almost semicircular moderate streak of more or less interconnected dots, from vein 9 to vein 2 at  $\frac{2}{3}$  of wing, top in middle of disc at  $\frac{3}{4}$ ; costal patch moderate, erect-clavate, vertical, on  $\frac{4}{5}$  of costa,



reaching to vein 8, dark fuscous; apex, termen and tornus transversely strigulated with irregular narrow sinuate light fuscous-strigulae, slightly dilated on veins. Cilia white, basal half touched with ochreous, a submedian row of fuscous dots. Hind wing white, pellucid, cilia white.

Ostium moderate. Limen simple, little dilated in middle, straight, with weak triangular lateral projections below. Ductus bursae rather short. Bursa copulatrix large, simple. Eighth segment sclerotized, simple. Ovipositor lobe elongate, lower part narrowed, curved. (Slide No. 652 D).

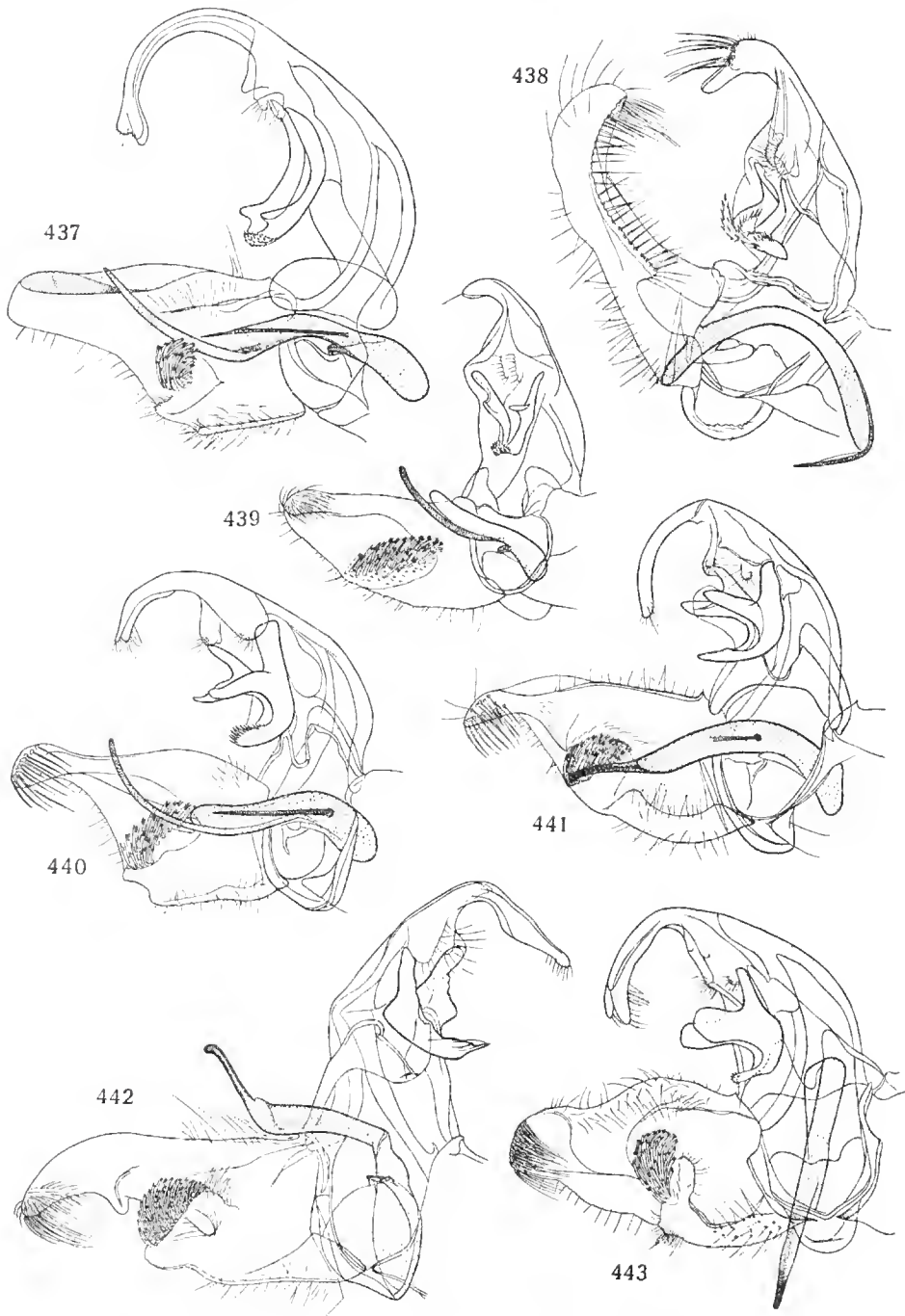
Mist Camp, 1800 m, January 17, 1939. One specimen. Belongs to the group of *S. paraptera* MEYRICK.

***Schoenotenes argentea* spec. nov. (fig. 439)**

♂ 18 mm. Head and palpus light fuscous-greyish, median segment of the latter darker greyish. Thorax whitish, suffused anteriorly and posteriorly with light fuscous-grey. Abdomen greyish-white. Legs whitish, anterior tibia and tarsus suffused with fuscous-grey, pale-ringed. Fore wing elongate-subtriangular, rather narrow, costa moderately curved towards extremities, straight in middle, apex subobtuse, termen hardly concave, oblique. Glossy-white, slightly scattered with fuscous scales, markings extended, greyish-fuscous, irrorated with white. A semioval patch on base of costa, not reaching fold; a small irroration in base of fold; a transverse, oblique, rather broad fascia from before  $\frac{1}{5}$  of costa, connected with preceding mark, to above  $\frac{1}{4}$  of dorsum, abruptly dilated in fold, connected below with transverse grey strigulation extending along dorsum below vein 1b; a broad transverse median fascia, outwardly oblique, gradually narrowed below, almost interrupted above cell; this fascia extended in middle posteriorly by a rectangular projection between veins 5—10 that reaches to beyond cell, and is connected above with costal patch, below with tornal markings; discal tuft small, white; costal patch small, subquadrate, beyond  $\frac{3}{4}$ , followed by a small dot on costa before apex; an erect-ovate patch just above tornus, connected above anteriorly with median fascia, posteriorly with an irregular subterminal elongate patch to apex, more oblique than terminal edge, with three-four vertical branches descending on that edge. Cilia white, an antemedian row of light fuscous dots. Hind wing whitish touched with pale grey, apical fourth suffused with darker grey, faintly marbled. Cilia white, a narrow antemedian pale fuscous shade.

Tegumen erect. Uncus moderate, hook rather short, with a few terminal bristles. Socius narrow, pending. Gnathos strong, a subacute porrect projection in middle of each arm, hook blunt, short-dentate. Transtilla semimembranous, rising, W-shaped. Valva narrow; cucullus obliquely truncate, costa narrow, saccus over  $\frac{1}{2}$ , ending in an oblique, ovate pad with bifid bristles. Aedocagus moderate, slightly sinuate, orifice below with a long horn. (Slide No. 719 D).

Moss Forest Camp, 2800 m, August 23, 1938. One specimen.



Male genitalia of *Schoenotenes* MEYRICK. Fig. 437: *acrogonia* spec. nov. Fig. 438: *beryllodes* spec. nov. Fig. 439: *argentea*, spec. nov. Fig. 440: *anthracospila* spec. nov. Fig. 441: *lithodes* spec. nov. Fig. 442: *virens* spec. nov. Fig. 443: *olivacea* spec. nov.

**Schoenotenes coccyx** spec. nov.

κοκκυξ = cuckoo

♀ 20 mm. Head whitish, slightly suffused with pale fuscous-tawny. Palpus rather long, gradually bowed downward, porrect; golden-fuscous, irrorated with white, terminal segment greyish, white-tipped. Antenna fuscous. Thorax whitish, irrorated with light tawny-fuscous, tegula strongly mixed with fuscous. Abdomen light fuscous? (much damaged, posterior part missing). Legs white, anterior tibia and tarsus suffused with blackish, white-ringed, median tibia and tarsus with golden-fuscous bands. Fore wing rather narrow, elongate-triangular, dilated, costa gradually curved throughout, apex subobtusate, termen hardly sinuate, rather oblique. Creamy-whitish, strongly retinate with dark fuscous-bronze, retination isolating rounded spots of ground colour of different sizes, more distinct and larger spots arranged as follows. An elongate-quadrate larger spot on  $\frac{1}{3}$  of costa, traversed by a narrow fuscous-bronze line; two smaller irregular patches on  $\frac{2}{3}$  of costa, followed by three transverse narrow wedge-shaped costal marks, posterior before apex; three large round spots along upper edge of cell from beyond base to middle of wing, followed by two smaller dots along vein 10, and two more dots below middle of costa; a large round dot on fold before middle, another dot filling posterior end of cell, numerous round dots of various sizes between these; a moderate dot between veins 8 and 9 beyond cell; two parallel narrow, little interrupted fasciae of ground colour from  $\frac{3}{4}$  of dorsum to below middle of vein 8; a preterminal row of moderate spots on veins, and a row of larger spots along dorsal edge. Cilia whitish, along costa barred with fuscous-bronze, an antemedian row of fuscous-bronze blotches. Hind wing whitish tinged pale fuscous, gradually suffused with darker fuscous posteriorly, in apex slightly marbled with greyish.

Moss Forest Camp, 2800 m, October 13, 1938. One specimen. Colouring typical and distinct.

**Schoenotenes cuspidata** spec. nov. (fig. 447)

♀ 22 mm. Head and thorax creamy-white mixed with fuscous-grey. Palpus rather long, fuscous-grey, median segment above posteriorly white. Abdomen ochreous-greyish-white. Legs whitish, anterior tibia and tarsus suffused with grey, posterior leg tinged ochreous. Fore wing elongate-subtriangular, dilated, costa gradually curved throughout, less curved posteriorly, apex subobtusate, termen straight, oblique. Veins 7 and 8 stalked, 7 to termen. White, faintly tinged ochreous anteriorly, densely scattered with small fuscous dots which tend to form transverse strigulation; basal patch indicated by an irregular darker fuscous, strongly angulate transverse fascia at  $\frac{1}{5}$ , less distinct on dorsum; an irregular darker fuscous

rather narrow oblique band from  $\frac{4}{6}$  of costa to  $\frac{3}{4}$  of fold, with short longitudinal streaks of the same colour in fold and on upper angle of cell; on costa this band dilated so as to form a small subquadrate blotch, which ends on costal edge with two blackish points, separated by whitish ground colour; base of costa slightly suffused with fuscous, costa dotted throughout with dark fuscous; an irregular submarginal darker fuscous fascia from tornus to below apex, interrupted in middle; a narrow fuscous marginal line in apex and along termen to tornus; discal and plical scale-tufts present. Hind wing with veins 3 and 4 connate; white, towards apex faintly marbled with grey, cilia white.

Ostium broad. Limen formed by two broad plates, separated in middle by a broad cleft, their upper rims dilated and more sclerotized, united in middle by the angularly bent limen proper, with top projecting above, deeply incised below. Seventh ventrite with a delicate rounded plate at each side. Ductus bursae narrow, moderately long. Bursa copulatrix small. Signum, a weak circular plate with a short hollow projection in middle. Ovipositor with upper lobe almost bipartite, lower lobe broad. (Slide No. 650 D).

Moss Forest Camp, 2600—2800 m, October 25, 1938. One specimen. The veins 7 and 8 are long-stalked in left, short-stalked in right fore wing, which seems to indicate that the specimen is abnormally developed, not justifying the erection of a new genus.

***Schoenotenes virens* spec. nov. (figs. 442, 452)**

♂ 16 mm, ♀ 19—22 mm. Head whitish, suffused with light fuscous-greyish, more suffused in male. Palpus fuscous-greyish, darker in female. Thorax pale whitish-yellow, coarsely mixed and dotted with dark fuscous. Abdomen pale whitish-ochreous in male, light brownish in female. Legs whitish, anterior tibia and tarsus infuscated above. Fore wing elongate, moderately dilated, more so in female; costa curved throughout, moderately in male, considerably in female; apex subacute, slightly curved and projecting, termen sinuate, oblique. Very pale yellow-greenish, retinate and marked with fuscous-greyish. A streak along basal  $\frac{1}{4}$  of costa, irrorated with ground colour, connected posteriorly by a transverse wedge-shaped narrow fascia, which is narrowed and somewhat zigzag in male, with a triangular spot of fuscous irroration on  $\frac{1}{3}$  of dorsum, narrowly extended anteriorly almost to base, retinate along lower half, top to fold; a semioval spot on middle of costa (in female elongate), connected with a dark fuscous broad suffused patch above and beyond posterior  $\frac{1}{3}$  of cell, almost connected posteriorly with a moderate subquadrate costal patch beyond  $\frac{3}{4}$  of costa, and in female connected also with an inwardly concave moderate little oblique patch in tornus, which is ill-defined in male; preterminal spot narrowly erect or almost linear in male, broader, spindle-



shaped in female, from termen above tornus to below costa; costa before apex stronger retinate with fuscous-greyish, termen irregularly edged with dark fuscous-greyish; tufts pale yellow-greenish. Cilia whitish with an antemedian row of dark fuscous specks, in male apical half except in tornus barred with light greyish-fuscous opposite specks. Hind wing and eilia white, the former sometimes faintly infuscated posteriorly and slightly marbled with greyish.

Tegumen elongate. Uneus rather large, hooked. Socius hardly separate: a marginal row of bristles. Gnathos robust, arms triangularly dilated above, angulate below, hook broad, strong. Transtilla large, invert-W-shaped. Valva exeavate apically, costa narrow, projecting, sacculus short, with a semispheroid patch of bifid bristles, a hole at base of this patch. Aedoeagus long, pistol-shaped, narrowed and bent upward apically. Cornuti absent. (Slide No. 697 D, holotype).

Seventh segment sclerotized. Limen represented by two thick fine-haired pads, angulate in middle, pointed and touching each other terminally; two smaller pads: at the sides of ostium, rounded. Eighth segment sclerotized, forming a broad collar around ovipositor. Ductus bursae long, coiled below. Bursa copulatrix subspheroid, simple. Ovipositor lobe narrow, gradually narrowed rostrad, angularly bent, upper  $\frac{2}{3}$  with a large dorsal haired pad. (Slide No. 698 D, allotype).

Top Camp, 2100 m, January 25, 1939 (holotype, male). Moss Forest Camp, 2800 m, October 13, 1938 (allotype, female); five km northeast of Lake Habbema, 2800 m, October 25, 1938. Three males, one female.

### **Schoenotenes beryllodes** spec. nov. (fig. 438)

*βηρυλλοδής* = beryl-coloured

♂ 21 mm, ♀ 24 mm. Head pale yellowish-white, vertex mixed with dark brownish-grey. Antenna brownish-white, ringed with dark brown towards base, scape whitish. Palpus in male greyish-fuscous; in female pale whitish-yellow tinged greenish; median segment suffused with fuscous anteriorly except at base, mixed with dark fuscous-grey posteriorly, less mixed above; terminal segment slightly mixed with pale fuscous towards base. Thorax light whitish-yellow, tinged pale greenish, pale in male, densely irrorated and mixed with dark fuscous, an irregular transverse median dark fuscous spot. Abdomen white (in female missing). Legs yellowish-white, anterior tibia and tarsus blackish, ringed with white, median knee dark grey. Fore wing elongate-subovate, moderately broad, dilated; costa gradually curved throughout, more so in female; apex rather pointed in male, subaeute in female; termen hardly sinuate, oblique in male, less so in female. Rather roughly scaled, fine ridges of raised scales along veins, tufts present. Whitish-yellow or pale yellowish-green, finely retinate with dark fuscous so as to form numerous rounded dots of ground colour, posteriorly with

narrow transverse lines, markings brown and dark fuscous, blackish along costa. A small oblique transverse streak on costa beyond base, lower part running horizontally above middle of wing to about  $\frac{1}{5}$ , blackish on costa, suffusedly dark brown and fuscous in disc; central fascia formed by the following markings: (1) a small wedge-shaped mark on  $\frac{1}{4}$  of costa, (2) a somewhat oblique suffused elongate-ovate brown patch, mixed with dark fuscous, in posterior half of cell below and beyond costal mark, indent anteriorly, and (3) a transverse patch of dense retination connecting this brown patch with posterior  $\frac{2}{5}$  of dorsum, gradually dilated below, running along dorsum to tornus, brown becoming greyish posteriorly, with anterior edge more or less marked with transverse patches of blackish scales; three small black dots along middle of costa, median slightly before middle, connected with a moderate circular brown mark below costa, which is connected below posteriorly with a small patch of dark grey retination, continued as a series of minute longitudinal brown marks along posterior edge of cell to its lower angle; four larger blackish-brown dots along posterior  $\frac{1}{4}$  of costa, becoming smaller and paler towards apex; first and second of these dots interconnected below costa by a moderate patch of brown irroration between veins 9—10, projecting anteriorly, and connected by a very narrow, slightly sinuate line with the suffusion on dorsum before tornus; costa between markings finely strigulated with blackish; an irregularly Y-shaped preterminal bright brown mark, stalk narrow, from tornus to below vein 4, arms thickened towards middle, slightly sinuate, anterior arm to vein 5, posterior to vein 7, continued above by dark fuscous lines to costa; terminal edge with a row of vertical short dark fuscous marks. All markings in male much paler, posterior ill-defined. Cilia pale yellowish-green, an antemedian row of blackish-fuscous bars. Hind wing with veins 6 and 7 connate; glossy white, tinged pale yellowish on veins and along edge, cilia whitish or very pale yellowish, a faint series of greyish antemedian dots along termen towards apex.

Tegumen moderately elongate. Uncus moderate, top dilated, with two patches of long bristles, hook bifid below these patches. Socius moderate. Hami absent. Gnathos strong, arms sinuate, top dilated, strongly plicate, folds dentate. Transtilla, a moderate transverse rod. Valva narrow: cucullus thickened, sacculus moderately excavate anteriorly, strongly bristled posteriorly. Aedocagus slender, curved, apex with a flattened bent projection. No cornuti. (Slide No. 696 D, holotype).

Moss Forest Camp, five km northeast of Lake Habbema, 2800 m, November 4, 1938 (holotype, male), October 21, 1938 (allotype, female), October 9—November 5, 1938. Iebèlè Camp, 2250 m, November 7, 1938. Two males, two females. Characteristic by very pale yellowish-green ground colour. The specimen from Iebèlè has discal brown markings more extended, preterminal mark confluent and forming a subovate patch.

*Schoenotenes olivacea* spec. nov. (fig. 443)

♂ 18 mm. Head fuscous-whitish. Palpus light fuscous, mixed laterally with darker fuscous. Thorax pale whitish-olive (posteriorly rubbed), tegula mixed with brighter olive-green. Abdomen pale ochreous-whitish (damaged). Legs whitish, tinged pale ochreous-fuscous, anterior tibia and tarsus dark fuscous, pale-ringed, median tibia and tarsus banded with light fuscous. Fore wing rather smooth, plical scale tuft very large, second discal moderate; elongate-subovate, costa moderately curved anteriorly, slightly curved towards apex, apex subobtuse, termen hardly sinuate, oblique. Whitish, suffused and dotted with light greenish-olive, irrorated and less suffused with dark fuscous, markings dark greyish-fuscous, partially much obscured by greenish-olive irroration. Basal third of costa narrowly suffused with dark greyish-fuscous, slightly dotted with whitish anteriorly, posteriorly with a quadrate patch reaching to cell; olive suffusion below  $\frac{1}{6}$  of costa reaching to cell, along second sixth of costa almost obscuring the above mentioned quadrate fuscous patch, extending below to lower edge of cell and dilated so as to form a rather well-defined large trapezoid patch; a large irregularly erect-triangular greyish-fuscous costal patch, dotted with blackish-fuscous along costa, extending from before middle to before apex; a slightly inwards-oblique, erect-ovate whitish spot on costa beyond middle of this patch, dotted with dark greyish-fuscous; anterior edge of costal patch running obliquely to upper edge of cell, bluntly angulate, thence along cell to closing vein, posterior edge somewhat excavate below middle, rather suffused; upper half of cell posteriorly suffused with light greenish-olive, this colour also irregularly edging costal patch and cell posteriorly, and forming coarse transverse strigulation between both fuscous costal marks, and in lower half of cell posteriorly; both tufts of raised scales greenish-olive; a narrow dark fuscous, suffused streak edging cell posteriorly, connected by a patch of transverse pale greyish-fuscous strigulation with dorsum before tornus; a large triangular patch of light fuscous irroration from  $\frac{1}{4}$  of dorsum to beyond middle, anterior margin well-defined, posterior much more oblique, narrowly edged with blackish-fuscous above, dissolved in fuscous irroration below, which is extended along dorsum to before tornus; top of patch to lower edge of cell, irrorated with greenish-olive; a small blackish-fuscous dot on  $\frac{2}{3}$  of fold; a large patch of light greenish-olive-yellow retination in tornus and along termen to vein 8, ovate as far as vein 4, narrowed above, edged below anteriorly with dark fuscous; terminal edge suffused with fuscous; dorsal edge dotted with darker fuscous. Cilia whitish, barred with fuscous, bars with basal half dark fuscous. Hind wing and cilia whitish, costal cilia dotted with light fuscous.

Tegumen elongate. Uncus moderate, hook rather long, curved, terminally dilated, bifid and bristled below. Socinus small. Gnathos with large porrect blunt median projections, top slender, hooked, short-dentate. Transtilla

rather weak, rising, W-shaped. Valva broad at base, strongly narrowed; cucullus oblique, costa broad; sacculus under  $\frac{1}{2}$ , posterior half angularly bent upwards, clavate, with bifid bristles. Aedocagus moderate, terminal projection rather short. (Slide No. 715 D).

Moss Forest Camp, five km northeast of Lake Habbema, 2800 m, October 19, 1938. One specimen.

**Schoenotenes lithodes** spec. nov. (fig. 441)

λίθωδης = stone-like

♂ 20 mm. Head and thorax white, mixed with black, vertex between antennae and middle of thorax with a black transverse band. Palpus black, median segment with apex white, terminal white with a black median ring. Abdomen whitish. Legs white, anterior tibia and tarsus black, white-ringed, median leg with knee and a basal band black. Fore wing with plical and discal tufts raised; elongate-subtruncate, costa gradually curved throughout, apex subacute, termen faintly sinuate, oblique. White, touched with pale yellow-greenish, retinate and irrorated with dark grey, markings dark grey and blackish-fuscous, dotted with black. Anterior fourth of costa suffused with grey, edged below costa with a streak of blackish irroration, with about six black costal dots; a narrow, slightly curved transverse striga of blackish irroration before  $\frac{1}{4}$  of wing, angulate in middle of disc, to above dorsum; a large ill-defined and suffused dark grey patch along central fifth of costa, slightly constricted below costa, dilated and ovate in cell, with lower edge almost to fold; this patch with two black dots on costa, with coarse black irroration above cell, transversely strigulated and suffused with dark fuscous in cell; tufts white, edged with black posteriorly; costal patch small, triangular, top obliquely elongated towards discal patch between veins 9—10; this patch dark grey, edged with black, two black dots on costa; a round grey spot above tornus, a slender elongate blackish mark before middle of termen; terminal edge irrorated with dark grey; two small transverse marks on costa before apex; a streak of dark grey retination along dorsum from beyond base to before tornus, narrowed posteriorly. Cilia white, touched with very pale greenish-yellow, tips mixed with grey, basal half with dark grey, two blackish bars before, one below apex. Hind wing white, posterior half faintly marbled with dark grey, cilia white.

Tegumen moderately elongate. Uncus with a long, gradually curved, not dilated hook. Socius moderate, rounded. Gnathos robust, with long porrect median projections, hook broad, truncate, terminal edge irregularly serrate. Traustilla W-shaped, with broad lateral dilatations. Valva broad, obliquely narrowed beyond middle, costa projecting, sacculus  $\frac{1}{2}$ , ending in a rounded large knob with bifid bristles. Aedocagus curved, terminal projection moderate. Cornutus, one spine. (Slide No. 708 D).

Lake Habbema, 3250—3300 m, end July—end August, 1938. One specimen.



**Schoenotenes anthracospila** spec. nov. (figs. 440, 446)*ἄνθραξ* = charcoal, *σπίλος* = dirt

♂ 18—19 mm. Head greyish-fuscous, tinged ochreous. Palpus dark fuscous, terminal segment greyish. Thorax greyish densely mixed with dark fuscous and brown, suffused with dark brown anteriorly. Abdomen pale whitish-ochreous. Legs greyish, posterior leg white, anterior tibia and tarsus blackish-fuscous, pale ringed, median tibia and tarsus banded with blackish-fuscous. Fore wing elongate-triangular, costa moderately curved anteriorly, straight in middle, slightly curved before apex, apex subacute, termen slightly concave in middle, oblique. Pale whitish-ochreous tinged greyish, densely irrorated with dark fuscous, markings dark fuscous and brown. Costa dotted with dark fuscous; a moderate triangular spot below base of costa dark brown, with top to below fold, dark fuscous; a transverse band at  $\frac{1}{4}$ , preceded and followed by not irrorated areas of ground colour; it is formed by a triangular dark brown spot on costa, strongly narrowed towards upper edge of cell, and by a conspicuous subtrapezoidal blackish-fuscous spot in cell, with anterior edge concave, posterior indent on fold; the latter spot is dilated below, reaching to vein 1b, and followed by a moderate pale ochreous tuft of raised scales in fold, which is connected above fold with a dark brown suffusion occupying posterior half of cell; this suffusion is connected above with a semiovate moderate spot of dark fuscous irroration on middle of costa, and below with an ill-defined transverse patch of dark fuscous retination occupying middle third of wing; this retination is mixed below cell and in fold with blackish-fuscous; dorsum below vein 1b retinate with dark bronze-fuscous; an inwardly oblique wedge-shaped patch somewhat beyond  $\frac{3}{4}$  of costa, connected by dark greyish-fuscous suffusion with end of cell, and bearing a whitish-grey marginal spot on costa; a rounded spot above tornus, narrowly connected with a large blotch before termen; this blotch below reaching halfway towards cell, and connected by dark grey retination with termen and apex, sometimes confluent with this retination. Cilia sordid whitish, tips slightly mixed with fuscous, an antemedian row of blackish blotches becoming larger towards tornus, two blackish bars before, one below apex. Hind wing pale greyish-white, posterior half transversely but faintly strigulated with grey; cilia whitish, tinged pale ochreous.

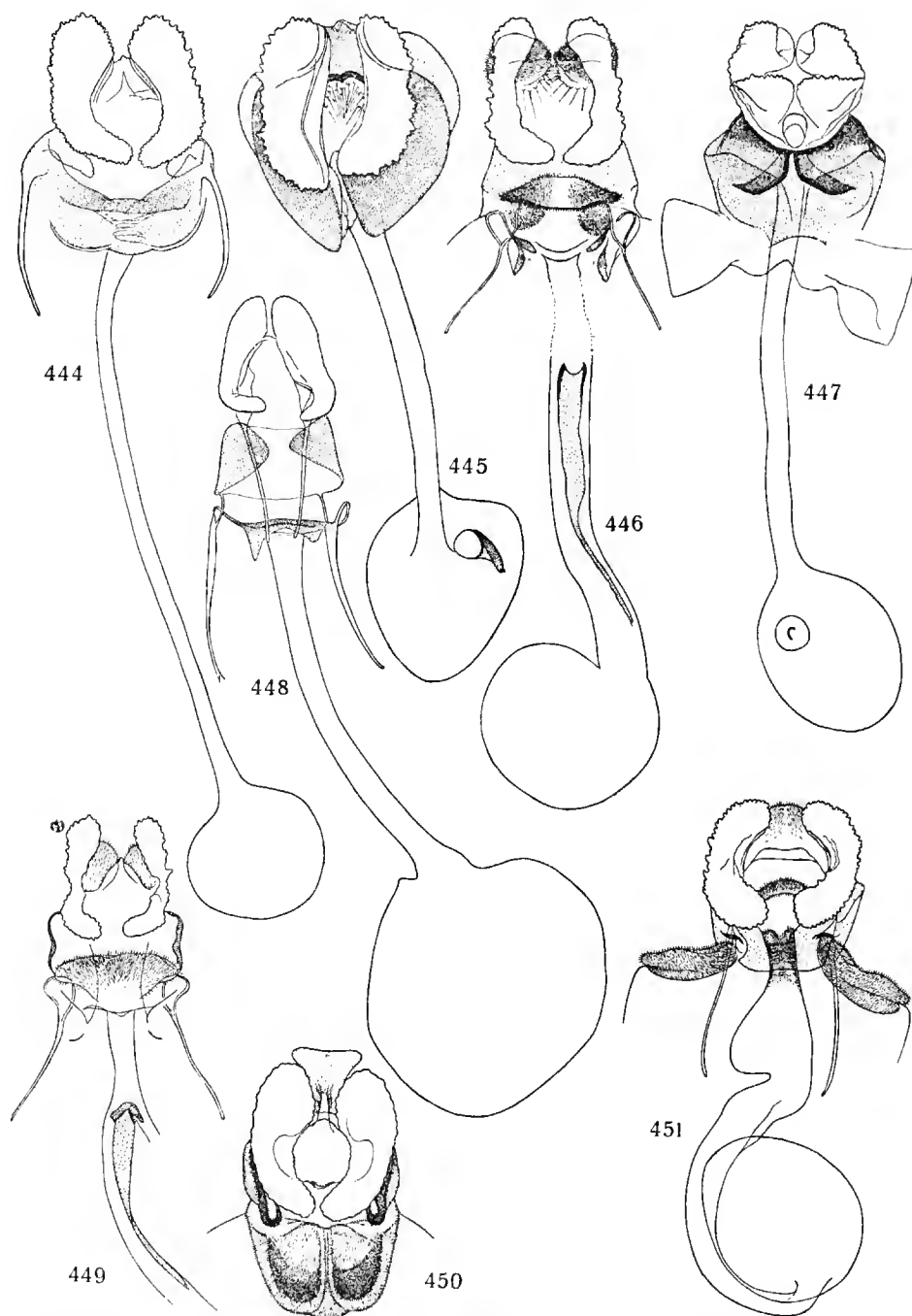
Male genitalia very similar to those of the preceding species (*lithodes*). Hook of uncus shorter, dilated, short-bifid terminally. Socius, a row of bristles. Gnathos with median projections slightly sinuate, top with a row of thorns. Valva shorter, more truncate, sacculus ending in an oblique ovate pad, covered with bristles. Aedoeagus with a long curved terminal projection. Cornutus, a strong thorn. (Slide No. 707 D, holotype).

♀ 20 mm. Head dirty pale fuscous-whitish. Palpus long, porrect, roughly

scaled above; greyish-fuscos, median segment whitish above, blackish-fuscos beneath. Thorax light fuscous anteriorly, snow-white posteriorly (damaged). Abdomen light brownish, snow-white towards base. Legs pale fuscous, anterior tibia and tarsus blackish-fuscos, white-ringed. Fore wing elongate-triangular, costa moderately curved anteriorly, almost straight posteriorly, apex rather pointed, termen sinuate, oblique. White, glossy, touched with very pale yellowish, densely irrorated and marked with blackish-fuscos and brown. Basal fourth of costa with four approximated blackish-fuscos dots, and with a small point at extreme base; a moderate irrorated spot below two anterior costal dots, reaching below middle of base, and a denser and darker triangular spot below two posterior dots, connecting those with upper anterior angle of a conspicuous blackish-fuscos slightly inwardly oblique diamond-shaped patch in disc before  $\frac{1}{4}$ ; base of this patch on vein 1b, upper posterior angle continued to end of cell by a horizontal streak of coarse irroration, light brown above, dark fuscous beneath; coarse blackish-fuscos irroration below vein 1b suffused with pale grey, and a row of moderate dots along dorsum separated by bright ground colour; a transverse broad band of similar irroration suffused with greyish, from three blackish dots on costa just before middle, to posterior half of dorsum, triangularly narrowed towards upper edge of cell, suffused with darker grey below costa, gradually dilated, less defined thence: a more conspicuous blackish-fuscos dot on  $\frac{2}{3}$  of fold; two large blackish dots on  $\frac{3}{4}$  of costa, connected by a subtriangular coarse dark fuscous irroration with the above mentioned transverse band in cell posteriorly, anterior edge rather well-defined, almost vertical; a horizontal pair of two blackish spots beyond upper angle of cell, first spot preceded by a minute tuft of raised white scales; an oblique broad preterminal streak of blackish-fuscos irroration from above tornus to apex, gradually narrowed above; terminal edge strongly irrorated with vertical strigulae of the same colour; apex narrowly edged with blackish-fuscos. Cilia white, with an antemedian series of short transverse blackish streaks, cilia in tornus dark fuscons. Hind wing whitish, tinged and marbled with pale greyish; cilia whitish.

Limen, a semimembraneous, broad, slightly curved plate, with somewhat folded sides. A transverse elongate plate above ostium, short-haired and narrow towards sides. Eighth segment slightly elongate, sclerotized. Ductus bursae moderately long, with a strong narrow cestum, extending along lower  $\frac{2}{3}$  of ductus, not reaching bursa, with excavate upper extremity. Ovipositor lobe elongate, reniform, upper half with a short, rounded dorsal plate. (Slide No. 710 D, allotype).

Valley east of Mount Wilhelmina, 3600 m, September 5, 1938 (holotype, male). Scree Valley Camp, 3800 m, August 15—22, 1938 (allotype, female). Lake Habbema, 3250—3300 m, end July—end August, 1938. Three males, five females. Nearest to *S. tricolor* DIAKONOFF, 1944, from the Wissel Lakes, West Central New Guinea.



Female genitalia of *Schoenotenes* MEYRICK. Fig. 444: *infuscata* spec. nov. Fig. 445: *pallida* spec. nov. Fig. 446: *anthracospila*, spec. nov. Fig. 447: *cuspidata* spec. nov. Fig. 448: *chalcotypa*, spec. nov. Fig. 449: *subtilis* spec. nov. Fig. 450: *plagiostibus* spec. nov. Fig. 451: *affinis* spec. nov.

**Schoenotenes acrogonia** spec. nov. (figs. 437, 453, 454)*ἄκρον* = margin, *γωνία* = a hook

♂ 18—20 mm, ♀ 19—23 mm. Head white, in male slightly suffused on vertex with light brownish-fuscous. Palpus in male light greyish-fuscous; in female palpus dark fuscous with base and upper and terminal edge of median segment white. Thorax whitish, more or less mixed with dark fuscous. Abdomen pale ochreous in male, white in female. Legs dirty whitish, anterior tibia and tarsus dark fuscous, white-ringed, median tarsus fuscous-banded. Fore wing white, partially irrorated with dark fuscous-grey, markings blackish-grey, and ferruginous-brown. Anterior fourth of costa with a suffused elongate dark grey patch, dotted with black along costal edge, connected with dorsum by rather sparse dark fuscous irroration; a conspicuous elongate-subovate dark grey patch along costa from  $\frac{1}{3}$  to before  $\frac{2}{3}$ , transversely strigulated and dotted with black, connected below with a triangular spot of transverse ferruginous-brown strigulation; top of this spot reaching to about middle of fold, sometimes followed in disc by one or two transverse strigulae of the same colour, or extended posteriorly by a short streak along upper edge of cell; plical tuft small, white anteriorly, blackish posteriorly; a rather small sub-triangular or rounded-quadrate suffused dark grey spot on  $\frac{3}{4}$  of costa, mixed with black above, with anterior edge well-defined, slightly inwardly oblique, top of spot almost to vein 8; rather pale fuscous irroration extending along dorsal third of wing, becoming darker fuscous-grey or blackish-fuscous posteriorly, and forming a rounded spot above tornus; this spot connected above with an erect spot extending beyond the last mentioned spot along upper half of termen, sometimes represented by two transverse narrow striae, terminating in two small blackish dots on costa before apex; apex and terminal edge denser irrorated and suffused with greyish-fuscous. Cilia whitish, apical third suffused with grey, a subbasal row of blackish bars. Hind wing whitish, with cloudy dark marbling posteriorly; cilia white, faintly tinged greyish towards apex, with a few faint greyish antemedian dots.

Tegumen elongate. Uncus small with a long gradually curved hook, which has a short dorsal knob before its apex, apex of hook short-bifid. Socius small, elongate, a short triangular prominence above its base (hamus?). Gnathos moderate, aris curved, with short projections before top, top short-dentate. Transtilla simple, shaped as a broad elongate-semiovate band. Valva strongly narrowed beyond middle, costa moderate, projecting posteriorly, sacculus under  $\frac{1}{2}$ , strongly bent and projecting, crowned with a large knob with bifid bristles. Aedoeagus long, sinuate, with a strong terminal horn. Cornutus, a single strong spine. (Slide No. 723 D, holotype).

Limen weak, membranous. Eighth segment sclerotized: a broad collar-like tergite, and a moderate transverse finely haired plate above



ostium. Ductus bursae with a moderate slender cestum which is excavate at upper extremity. Bursa copulatrix simple. Ovipositor lobe narrow, sinuate, dorsal pad swollen so as to form a large vesicle-like body. (Slide No. 724 D, allotype).

Moss Forest Camp, 2600—2800 m, October 9—November 5, 1938 (holotype, male; allotype, female). Lake Habbema, 3200 m, end July—end August, 1938. Two males, five females.

***Schoenotenes rhodantha* spec. nov. (fig. 455)**

$\rho\delta\delta\varsigma$  = red,  $\alpha\nu\theta\varsigma$  = gem

♀ 23 mm. Head whitish, suffused with pale reddish-brown. Palpus rather pale fuscous, apices of median and terminal segments white. Thorax white, slightly mixed along edge with light reddish-brown; tegula light ferruginous-brownish. Abdomen pale whitish-ochreous. Legs ochreous-whitish, anterior tibia and tarsus blackish-fuscous, pale-ringed, median tibia and tarsus banded with pale fuscous. Fore wing elongate-subovate, moderately broad, dilated, costa considerably curved anteriorly, less curved posteriorly; apex pointed, slightly projecting, termen sinuate, moderately oblique. White, partially irrorated with fuscous. A deep ferruginous-brown suffusion along  $\frac{5}{6}$  of costa, mixed with dark brown in centre, narrow at base of wing, rather abruptly dilated from middle of cell, reaching well beyond closing vein, in middle of wing almost reaching fold; lower edge of this suffusion indistinct, posterior rather well-defined, with a narrow curved indentation above middle, rounded above and below this; plical tuft white, suffused with ferruginous-brownish posteriorly, discal tuft ferruginous-brown; an outwardly oblique erect-ovate dark fuscous patch in tornus connected above anteriorly with the above mentioned suffusion; an erect-ovate dark fuscous preterminal patch; two ferruginous dots on costa before apex, a streak of fuscous retination along dorsum below vein 1b; terminal edge with a narrow dark fuscous streak, interrupted in tornus, with a minute branch before apex to last costal dot. Cilia white, with an antemedian row of short transverse streaks, basal half of cilia opposite these streaks pale ochreous. Hind wing white, marbled with grey along apical third, cilia white.

Linen, a narrow transverse rather weak band. Seventh ventrite forming two pairs of fine-haired lobes: anterior (lower in figure), touching each other in middle, and posterior, smaller lobes. Ductus bursae with a distinct cestum, angulate above. Bursa copulatrix small, simple. Ovipositor lobe peculiar: cylindrical, fine-haired, with weak bristles, base sclerotized. (Slide No. 727 D).

Moss Forest Camp, five km northeast of Lake Habbema, 2800 m, October 10, 1938. One specimen.

**Schoenotenes orphnina** spec. nov. (fig. 457)*ὄφφινος* = dark

♀ 23 mm. Head white, slightly mixed on vertex with fuscous-grey. Antenna blackish, scape white mixed above with fuscous-grey. Palpus long, dark greyish-fuscous; median segment with a rectangular white spot on upper posterior fourth; terminal segment mixed with white. Thorax white, mixed with fuscous-blackish, shoulder fuscous-blackish mixed with white. Abdomen pale ochreous-whitish, ovipositor orange. Legs whitish, anterior tibia and tarsus blackish above, white-ringed, median tibia and tarsus with dark fuscous bands, posterior tibia with fuscous base. Fore wing roughly scaled along veins anteriorly, tufts strongly raised; elongate-subtriangular, costa considerably curved anteriorly, little curved posteriorly; apex rather pointed, termen slightly sinuate, little oblique. White, densely irrorated and retinate with blackish-fuscous. A black triangular patch on base of costa, reaching to fold, its narrow top slightly extended along fold; costa with a row of blackish dots, obscured by other markings posteriorly; a short inwardly oblique strigula at  $\frac{1}{3}$  of fold not reaching dorsum; accessory cell suffused with light orange-brownish; a large cloudy subtriangular black patch along costa from  $\frac{2}{5}$  to  $\frac{5}{8}$ , reaching to fold anteriorly and enclosing the above mentioned suffusion in cell; anterior edge of this patch suffused, concave, almost vertical, its lower edge ill-defined, becoming greyish posteriorly; posterior edge of patch well-defined, inwardly oblique, with a narrow curved indentation below middle which separates a rounded projection in disc beyond end of cell; discal tuft conspicuously white; an elongate subterminal patch from tornus to above vein 7, dark grey, edged and suffused above with black, narrowed above, sometimes constricted on vein 4; apex somewhat edged with blackish. Cilia white, an antemedian row of fuscous-blackish blotches which become pale ochreous towards base, and a row of pale greyish suffused spots along apical third opposite those blotches; two blackish bars on costal cilia before apex. Hind wing white, posterior half suffused with fuscous-grey, marbled with darker grey; cilia white, a faint interrupted pale fuscous antemedian line, and grey bars on costa before apex.

Limen represented by two rising sclerotized triangular blades, with acute tops and corrugated surface. Ostium sclerotized, forming a short tube, fine-haired on inner surface. Ductus bursae narrow. Bursa copulatrix simple. Eighth segment, a sclerotized, moderate ring. Ovipositor lobe narrow, dorsal pad large, fine-haired, with a rounded upper half and a triangularly projecting lower half. (Slide No. 722 D, holotype).

Moss Forest Camp, five km northeast of Lake Habbema, 2800 m, October 15, 1938 (holotype), October 9—November 5, 1938. Lake Habbema, 3250—3300 m, October 19, 1938. Four specimens. Closely allied to the preceding species.

**Schoenotenes glaucops** spec. nov. (fig. 458)*γλαύξ* = owl, *ὄψ* = eye

♀ 24 mm. Head white, slightly mixed with dark greyish-fuscos, side-tufts white, apex dark greyish-fuscos. Antenna greyish-fuscos, scape white, dark greyish-fuscos above. Palpus blackish-fuscos, mixed with white. Thorax white, densely mixed with blackish-fuscos except in centre, a raised white crest posteriorly, with basal half black. Abdomen light brownish-ochreous. Legs pale ochreous, anterior leg black, white-ringed. Fore wing roughly scaled along veins anteriorly, basal tuft small, plical tuft large, erect, discal moderate; elongate-subtriangular, rather broad, costa moderately curved anteriorly, less curved posteriorly, apex sub-acute; termen slightly sinuate, little oblique. White, very densely retinate and irrorated with fuscous-grey. An almost horizontal, broad, rather short, jet-black streak on base of costa; costa throughout with a row of blackish-grey dots, posteriorly obscured by other markings: an angulate transverse series of black marks before  $\frac{1}{4}$ , formed by three round dots above fold, and an inwardly oblique larger elongate mark below this; a row of about four black points along vein 12, and some three larger black dots between veins 10—11; some grey suffusion connecting three dots on middle of costa, costal edge remaining white; an elongate horizontal deep brown patch along posterior third of cell above parting vein, becoming narrower and dark fuscous-grey posteriorly, ending in a rounded black projection in disc beyond cell; a less distinct elongate patch of dark grey suffusion below and parallel to the above mentioned brown patch, reaching below about halfway between that and dorsum, transversely strigulated with black anteriorly; a pale fulvous-brownish suffusion in middle of cell above parting vein; tufts white with posterior third blackish; a few oblique blackish short strigulae at  $\frac{1}{3}$ , and at  $\frac{2}{3}$  of fold; costal patch rather small, subtriangular, irregular, dark grey, with four black dots arranged in a quadrate, two lower dots largest; a short curved vertical dark grey strigula from middle of posterior edge of costal patch; a dark grey blackish-edged preterminal streak from dorsum just before tornus to above vein 7, slightly spindle-shaped, faintly sinuate; median half of dorsum with a suffused grey streak; terminal edge narrowly dark greyish-fuscos. Cilia white, tips light greyish, an antemedian row of dark fuscous dots, two bars before, one below apex dark fuscous; cilia in tornus pale fuscous. Hind wing whitish, suffused with greyish-fuscos except towards base, becoming darker and slightly marbled with darker grey posteriorly; cilia white touched with pale ochreous, with an indication of an interrupted pale fuscous antemedian line; suffused pale fuscous bars above and below apex.

Limen membraneous, only laterally forming a moderate plicate sclerotized body. Ostium wide, somewhat projecting, lateral rims strong. Eighth segment, a narrow sclerotized ring. Ductus and bursa simple.

Ovipositor lobe narrowed and curved below, dorsal pads large, rounded. (Slide No. 728 D, holotype).

Moss Forest Camp, five km northeast of Lake Habbema, 2800 m, October 17, 1938 (holotype, female). Two specimens. Closely allied to *S. ophiodora* spec. nov.

***Schoenotenes ophiodora* spec. nov. (figs. 456, 464)**

$\sigma\mu\tau\varsigma$  = snake,  $\delta\sigma\acute{\alpha}$  = skin

♂, ♀ 23—26 mm. Head white, densely mixed with blackish-fuscous or black. Palpus blackish-fuscous or dark fuscous, basal segment white below; median segment mixed with white above posteriorly, apex white-edged; terminal segment mixed with white. Antenna whitish ringed with fuscous, towards base suffused with black; scape white, with a blackish-fuscous patch towards base above. Thorax with a strong white posterior crest; thorax in male dark fuscous, mixed with white, in female white mixed with dark fuscous, with a black median transverse band. Abdomen pale ochreous-whitish in male, snow-white in female. Legs pale ochreous-whitish or white, anterior tibia and tarsus black, white-ringed, median tibia and tarsus black-banded, knee black. Fore wing elongate-triangular, broadly dilated, costa gradually curved throughout, apex subobtuse, termen hardly concave in middle, little oblique; roughly scaled, ridges of raised scales along veins becoming larger basally, a large ridge along basal half of upper edge of cell, a large plical and a moderate discal tuft of raised scales. White, densely retinate with brown or grey, suffused with brown, markings suffused with dark grey, dotted with black. A row of black dots along costa, another row of smaller dots below this to about  $\frac{3}{4}$ ; a jet-black subtriangular transverse mark on base of costa to vein 12; a small horizontal black streak just above fold beyond base; a minute black streak along base of dorsum; a transverse series of some four black dots: two smaller ones above middle, two larger below; this series of dots strongly outwards-angulate in middle, situated at about  $\frac{1}{5}$  of wing; a large cloudy suffused transverse patch along less than middle fifth of costa, reaching below to fold, slightly outwards-oblique; its anterior edge somewhat projecting above middle, almost vertical; its posterior edge strongly angularly projecting in middle to beyond cell, concave above and below, sometimes with an elongate projection posteriorly just above fold; this transverse patch dark grey, irrorated with white, dotted with black; this patch including a suffused brown streak along upper part of cell above parting vein; posterior projection of patch black, sometimes also a large black dot on fold; plical and discal tufts white, posterior third brown or black; costal patch rather small, at  $\frac{3}{4}$ , rounded-triangular or subquadrate, slightly inwards-oblique: dark grey more or less irrorated with white, dotted with black, two large black dots on costa; costal patch sometimes connected by grey suffusion between veins 9—10 with a



moderate erect-ovate fuscous or blackish-grey patch in tornus parallel to edge of wing, somewhat constricted above base, with top rounded; an elongate dark fuscous or blackish-grey subterminal mark, exceeding below and above veins 4 and 7, respectively, narrowed, posterior edge more or less undulate; retination along dorsal edge forming a more or less distinct row of blackish dots; terminal edge suffused with dark fuscous or grey, this suffusion forming a series of short streaks. Cilia white, basal half with a row of black blotches becoming pale ochreous towards base; pale grey cloudy spots on apical third of cilia opposite these blotches; two black bars before, one below apex. Hind wing white, posterior half suffused with fuscous-grey, with a bronze gloss, marbled with darker grey. Cilia white, basal third touched with pale fuscous, an antemedian interrupted pale grey line.

Tegumen elongate. Uncus small, conical, with a long, strongly curved hook. Socius small. Gnathos with moderate lateral projections below middle, top hooked, smooth. Transtilla narrow, with strong, acutely pointed, erect-conical dentate labides. Valva broad, abruptly and obliquely narrowed; costa projecting, forming a curved bristled apical body; saeculus  $\frac{1}{2}$ , terminal knob concave, with bifid bristles. Aedocagus slender, moderately bent, orifice above with a narrow projection, below with a strong thorn. Two bristled pads below transtilla. (Slide No. 725 D, holotype).

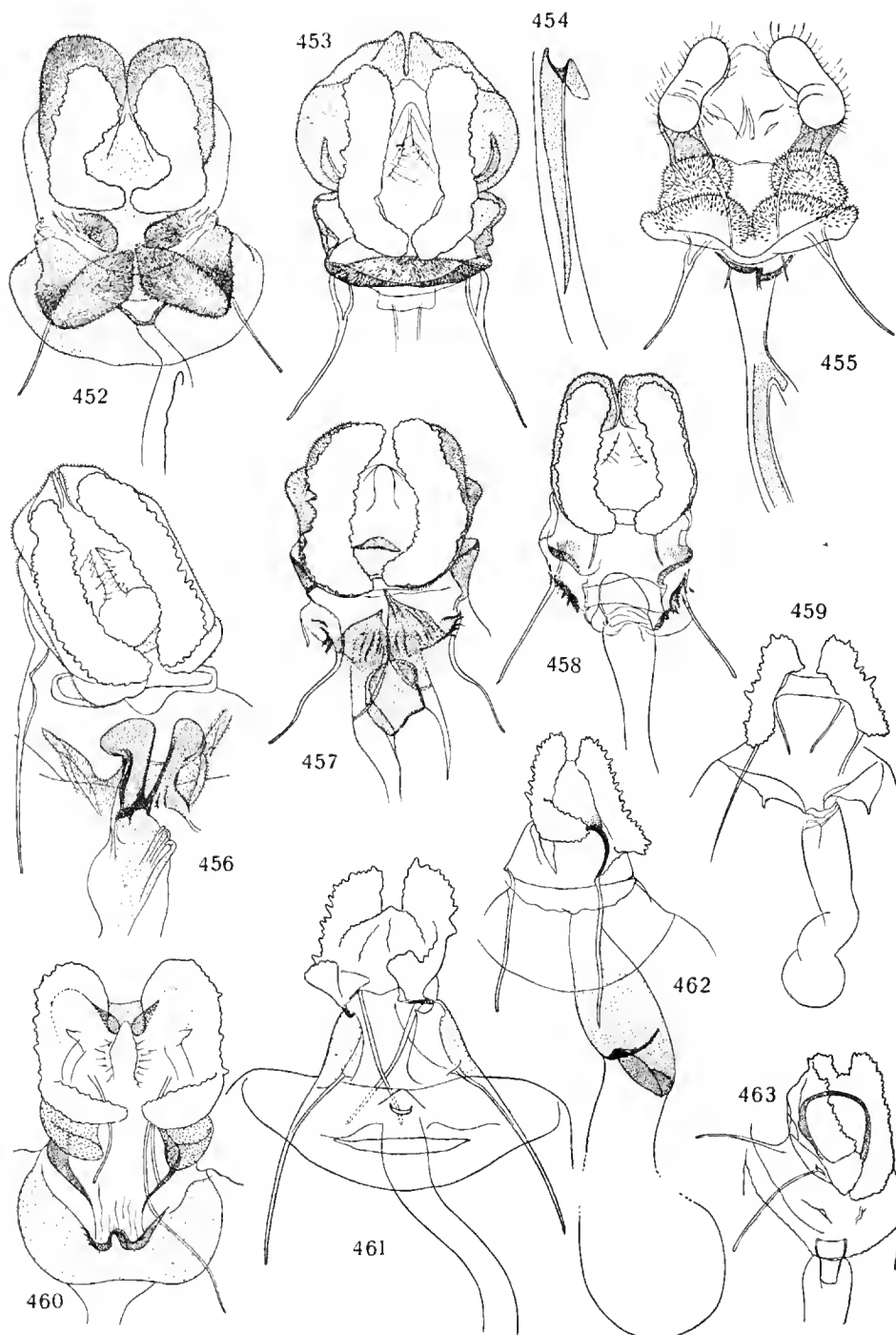
Limen forming a strong sclerotized median body which is tubular, with a narrow incision ventrally and is dilated above so as to form two triangular blades. Ostium wide, fine-haired, plicate, two longitudinal folds at the sides of limen. Ductus bursae with a collieulum, being an irregularly plicate sclerotized piece. Bursa copulatrix simple. Ovipositor lobe narrow, dorsal pad larger than ovipositor itself, plicate above and beneath. (Slide No. 726 D, allotype).

Lake Habbema, 3250—3300 m, August 20, 1938 (holotype, male), August 4, 1938 (allotype, female), August 4—28, 1938. Two males, seventeen females.

**Schoenotenes dimorpha** spec. nov. (figs. 374, 375, 460, 468)

*διμορφος* = dimorphous

♂ 25 mm. Head with face white, vertex and side tufts isabel-colour. Antenna black, scape isabel. Palpus with basal segment whitish, median segment black, terminal white. Thorax isabel-whitish, an angulate transverse median black band, tegula black, sometimes a white lateral patch anteriorly. Abdomen blackish-grey, paler towards base. Legs white, slightly suffused with pale fuscous, anterior tibia and tarsus black above, white-ringed; median tibia and tarsus banded with black, posterior tibia with a black longitudinal streak towards base laterally, posterior tarsus with black base. Fore wing rather smooth, tufts moderate; elongate-subtriangular, costa little curved throughout, apex subacute; termen



Female genitalia of *Schoenotenes* MEYRICK. Fig. 452: *virens* spec. nov. Fig. 453: *acrogonia* spec. nov. Fig. 454: *idem*, cestum. Fig. 455: *rhodantha* spec. nov. Fig. 456: *ophiodora* spec. nov. Fig. 457: *orphanina* spec. nov. Fig. 458: *glaucops* spec. nov. Fig. 459: *mikrophthalma* spec. nov. Fig. 460: *dimorpha* spec. nov. Fig. 461: *chrysopluta* spec. nov. Fig. 462: *aurispersa* spec. nov. Fig. 463: *chalcitis* spec. nov.

faintly impressed in middle, almost straight, moderately oblique. Isabel-colour, markings jet-black, rather variable in details, in holotype as follows. A small dot on base of costa, closely followed by a transverse oblique elongate-wedge-shaped patch, reaching slightly below fold, with posterior edge concave above; followed by a small triangular costal dot; an irregular undulate transverse patch from  $\frac{1}{5}$  of costa to fold, outwardly oblique, narrowed below costa, dilated below this, with posterior edge curved, anterior edge indent; an inwardly oblique erect-ovate broader patch on  $\frac{1}{5}$  of dorsum to fold, top slightly posterior, almost touching preceeding; a subtriangular, somewhat erect moderate mark on middle of costa, with posterior lower angle elongate, pointing towards tornus (sometimes clavate), preceded and followed by a costal dot, and a smaller dot in disc below this dot; an irregular elongate patch in middle of disc, with upper edge serrate, extremities acutely projecting, rising; its posterior extremity almost connected with costal mark, anterior with costal dot before that mark (sometimes two small dots of ground colour in middle of this discal mark); of this elongate patch lower edge connected anteriorly with anterior angle of a subquadrate slightly inwards-oblique patch on dorsum beyond middle, which is centred with one or two irregular spots of ground colour (posterior angle of dorsal patch sometimes connected with preterminal mark); preterminal mark large, slender, irregularly H-shaped, with anterior branch angulate below the transverse bar, and running obliquely to tornus; posterior arm of the H slightly outwards-concave, from termen just above tornus to vein 8 before apex; a moderate semi-circular line representing costal patch, beyond  $\frac{4}{5}$  of costa, reaching to vein 8, almost touching H-shaped mark anteriorly; a triangular dot on costa before apex, followed by a minute point before, and one below apex; a narrow wedge-shaped dot in tornus; minute black points along termen; a broad streak of dark grey suffusion along dorsum, in middle reaching to vein 1b, along dorsal edge mixed with whitish, and dotted with black. Cilia white, suffused with dark grey towards tornus, and in tornus; an antemedian row of black points becoming moderate patches in tornus and below apex; costal cilia with two black bars. Hind wing dark blackish-grey; cilia grey, suffused with whitish around apex; basal third dark grey throughout.

Tegumen elongate. Uncus strong, hook short, ending in a strongly bristled knob, with a curved point below this knob. Socius small, slender, one row of bristles. Gnathos with broad arms, which are abruptly dilated before top and form transverse plates; top short, triangular, short-dentate. Transtilla membranous, plicate, rising. Valva with costa broad, semiovate, cucullus oblique; sacculus bristled anteriorly, with a projecting sharp point in middle, deeply excavate beyond this, ending in a clavate, haired projection with a large spheroid pad at base. Aedoeagus moderate, top curved downward. Anellus dilated into a large sclerotized, short-haired plate around aedoeagus. (Slide No. 730 D, holotype).

♀ 21—26 mm. Head and thorax white, the latter with a black suffusion in centre, crest black, white laterally. Abdomen whitish, densely irrorated with blackish-grey except towards base. Fore wing elongate-subovate; costa curved towards extremities, slightly impressed in middle, apex rather obtuse. Whitish faintly tinged isabel, markings black. Extreme base of costa with a small dot; a broad oblique transverse patch beyond this, with posterior half slightly clavate to somewhat below fold; an elongate small patch on dorsum before  $\frac{1}{4}$ ; a wedge-shaped oblique transverse streak before  $\frac{1}{4}$  of costa, with acute point not reaching fold, with a slight angulate projection in middle of anterior edge, preceded and followed by a dot on costa; an elongate mark below and slightly beyond preceding just below fold, sometimes connected anteriorly with dorsal streak before  $\frac{1}{4}$ ; an irregular transverse oblique fascia from middle of costa to  $\frac{2}{3}$  of dorsum, with costal third triangular, marked on edge of wing with a dot of ground colour; discal part of fascia Y-shaped or X-shaped; this fascia sometimes not reaching dorsum, more or less filled with black suffusion in disc, with a long slender projection from posterior edge above base, curved upward and almost touching preterminal mark; this mark slender, regularly Y-shaped, somewhat outwardly oblique, stalk to termen just above tornus, anterior arm often connected above with a small triangular or subovate costal patch at  $\frac{4}{5}$ , centred with ground colour; a dot on costa before apex, one-three elongate, vertical marks in tornus, and a row of small triangular dots along termen. Cilia white, scattered with a few black scales. Hind wing white, touched with ochreous; a row of cloudy dark grey marginal dots except in tornus and dorsum, and dark grey marbling tending to form transverse strigulation along posterior half. Cilia whitish.

Limen, an ovate plate, with upper edge excavate, with a W-shaped small fold in middle. An oblique fold at each side of ostium dorsally. Ductus bursae very narrow, bursa copulatrix simple. Ovipositor lobe broad, ovate; a flattened subquadrate dorsal lobe. (Slide No. 731 D, allotype).

Moss Forest Camp, 2800 m, November 16, 1938 (holotype, male), October 9—November 5, 1938 (allotype, female). Sigi Camp, 1500 m, February 20, 1939. Three males, five females.

***Schoenotenes teratographa* spec. nov. (fig. 467)**

*τέρας* = a wonder, *γράφω* = to draw

♂ 23 mm. Head pale ochreous. Antenna whitish, ringed with fuscous, base dark fuscous, scape pale ochreous mixed with pale fuscous above. Palpus pale ochreous, basal segment blackish anteriorly, median segment with anterior half densely irrorated with blackish-fuscous. Thorax white, suffused with pale ochreous anteriorly, two median blackish-fuscous small dots. Abdomen white, anal tuft pale ochreous. Legs pale ochreous, anterior tibia and tarsus blackish-fuscous, pale-ringed; median tibia and tarsus



with dark fuscous bands. Fore wing elongate-triangular, costa curved towards extremities, straight in middle, apex subobtusely; termen slightly concave above, moderately oblique. Glossy light golden-yellow, markings dark fuscous turning blackish towards costal edge. Base of costal edge blackish below; a small semicircular spot beyond base of costa, below reaching cell, centred with ground colour, connected with base of wing by a short marginal streak, sometimes with a triangular connection with dorsum beyond base; this spot followed by another similar spot, also reaching cell, erect-semioval, slightly inwards-oblique; an elongate-semioval mark on costa before middle, preceded and followed by a small marginal dot, and centred with ground colour and with two transverse bars; lower edge of this mark with a slight triangular projection posteriorly to base of vein 10; before this projection originates an inwardly curved, gradually dilated transverse streak running to below middle of fold, with two branches; a broad anterior branch from middle of streak, strongly curved downward, abruptly dilated below  $\frac{1}{4}$  of fold, reaching halfway between fold and dorsum, centred below fold with a dot of ground colour, lower extremity truncate; upper edge of this branch with two triangular projections, anterior projection sometimes anastomosing with second costal mark; posterior branch of transverse streak running along fold to its  $\frac{3}{4}$ , with two dots of ground colour in fold, and is triangularly dilated posteriorly; upper posterior angle of this branch anastomosing with an outwardly oblique X-shaped mark along and beyond end of cell; four transverse erect-triangular streaks along posterior fourth of costa gradually becoming shorter towards apex, or two anterior streaks much longer, anastomosing below so as to form a U-shaped mark with a narrow appendix below, pointing towards tornus; an invert-V-shaped mark in tornus with a narrow vertical appendix above, lower posterior extremity bifid; a slightly inwards-oblique elongate preterminal patch from termination of vein 3 to above vein 6, sometimes triangularly dilated in middle anteriorly, followed along terminal edge by three black dots becoming larger towards apex, upper dot almost connected with a black dot below apex. Cilia pale whitish-yellow, basal third with black dots corresponding with terminal markings. Hind wing white, faintly touched with pale fuscous, posterior half with transverse rows of pale blackish dots parallel to termen. Cilia whitish, touched with yellowish.

Tegumen erect. Gnathos moderate, hook long, curved, simple. Socius narrow, slender. Gnathos with median projections rather long, slightly below middle, top robust, densely covered with fine dentations. Transtilla invert-W-shaped, slender. Valva slightly dilated towards middle, obliquely truncate; costa straight posteriorly; sacculus weak, terminal knob elongate, transversely oblique, with bifid bristles. Aedoeagus curved, rather thick, with a moderate apical horn. Cornutus, one strong spine. (Slide No. 729 D, holotype).

Sere Valley Camp, 3800 m, November 28, 1938. One specimen.

**Schoenotenes chrysauges** spec. nov. (fig. 484)*χρυσανγής* = shining with gold

♀ 20—23 mm. Head pale ochreous. Palpus light ochreous yellowish, partially suffused with dark brown, terminal segment with a brownish median ring. Thorax whitish-ochreous, tinged greyish, mixed with dark brown, especially anteriorly. Abdomen pale ochreous. Legs light ochreous, anterior and median tibia and tarsus blackish-fuscous, light-ringed; posterior tibia with fuscous knee, posterior tarsus ringed with fuscous. Fore wing moderately broad, elongate-triangular, dilated; costa gradually little curved anteriorly and before apex, straight elsewhere, apex rather pointed; termen sinuate above, gently rounded beneath, moderately oblique. Light golden-yellow with a bright gloss, markings dark brown and fulvous, more or less irrorated with rounded small points of ground colour and then appearing retinate. Base of costa to beyond  $\frac{1}{5}$  with five closely approximated small blackish-brown dots; a triangular patch of lighter and darker brown irroration on base of wing, not reaching dorsum, and a small rounded brown spot below two posterior costal dots; a conspicuous vertical triangular patch extending along and beyond second fourth of dorsum, almost equilateral, with lower half dotted with ground colour, with top to upper edge of cell; a blackish point on costa above that top; an elongate-ovate moderate patch on middle of costa, with lower edge slightly projecting in middle, reaching to upper edge of cell; two small costal marks of ground colour in middle of this patch, followed on costa by a blackish point; two diamond-shaped, inwardly oblique moderate marks, at and beyond  $\frac{1}{4}$  of costa, respectively, united below costa by an inwardly oblique elongate deep brown patch, anteriorly connected by a narrow streak with a moderate outwardly oblique dark brown patch beyond posterior upper part of cell; an elongate moderate fulvous streak along parting vein; lower edge of cell with an elongate patch of regular dark brown retination not reaching fold, extending to preceding marking, leaving a small ovate spot of ground colour in posterior end of cell; a quadrate dark brown costal dot on end of vein 9; a large terminal dark brown patch, with anterior edge strongly inwardly oblique, more or less serrate or preceded by irroration, running from costa before angle to before middle of vein 3, thence rounded, retinate, to tornus; lower half of patch dotted with ground colour, which forms a strongly sinuate sub-marginal fascia, from above tornus to about vein 6, thence continued by isolated specks to apex; this fascia is connected below by some three vertical short branches of ground colour with edge of wing; dorsum posteriorly with a regular row of small dark brown dots, more or less interconnected above by fine brown retination; often dark markings strongly irrorated with ground colour and rather indistinct, especially along termen, but triangular dorsal patch always present. Cilia pale whitish-yellow, an antemedian row of dark brown dots. Hind wing with

veins 6 and 7 closely approximated towards base; glossy yellowish-whitish, posterior half irregularly dotted with grey; cilia yellowish-whitish.

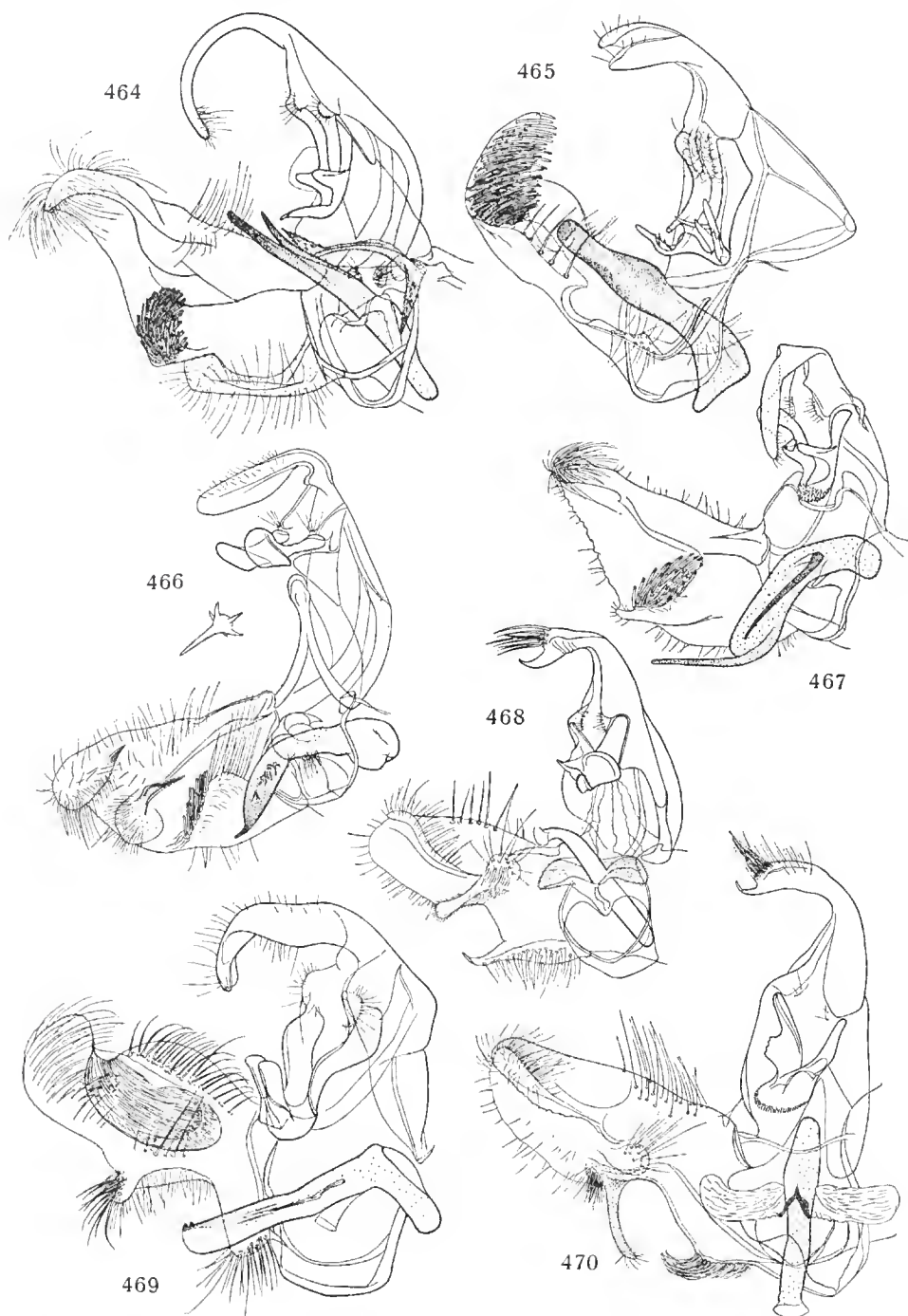
Limen weak, concave in middle, laterally upper edge sclerotized, lower edge with a triangular fold. A strong semiovate finely haired lobe above ostium dorsally. Colliculum small, weak. Ductus bursae moderately broad, short, lower half with a slightly tortuous cestum, with upper edge excavate. Bursa copulatrix small. Ovipositor strong, two rounded, sclerotized, short-haired lobes dorsally. (Slide No. 695 D, holotype).

Lake Habbema, 3250—3300 m, August 17, 1939 (holotype), end July—end August, 1938. Moss Forest Camp, five km northeast of Lake Habbema, 2800 m, October 11—17, 1938. Twelve females. Distinct by the glossy yellow ground colour.

***Schoenotenes chrysopluta* spec. nov. (figs. 461, 469)**

*χρυσός* = gold, *πλοῦτος* = richness

♂ 20 mm, ♀ 19—22 mm. Head and thorax light yellowish-ochreous in male, pale whitish-ochreous in female. Palpus whitish-ochreous or light ochreous, slightly mixed with brown, terminal segment more or less suffused with greyish. Abdomen white. Legs whitish, anterior tibia and tarsus blackish, white-ringed; median tibia and tarsus banded with light fuscous; posterior tibia in female with fuscous knee, tarsus palcely ringed with fuscous. Fore wing elongate-triangular, considerably dilated; costa little curved throughout, slightly prominent along third fourth; apex subacute, termen hardly sinuate, moderately oblique. Pale whitish-ochreous, transversely strigulated and irrorated with light ochreous or ochreous-brownish, sometimes touched with olive, markings deep brown. Extreme base of costa with a quadrate dot; a narrow sinuate ochreous-brownish line from base of costa obliquely to fold; a suffusion of the same colour from base along fold, mixed with dark brown in fold beyond base; three small triangular or elongate dots on costa beyond preceding; a narrow transverse band from second one of these dots, strongly angulate on  $\frac{1}{3}$  of fold, to dorsum before  $\frac{1}{4}$ , lower half forming a broader dark brown patch, interrupted in male; an elongate somewhat larger patch on  $\frac{1}{4}$  of costa; from this originates central fascia which is slightly oblique, narrow above, abruptly strongly dilated posteriorly at  $\frac{1}{3}$ , gradually slightly narrowed again towards dorsum; anterior edge of fascia slightly angulate on fold, appearing concave, posterior edge rather suffused; this fascia deep brownish-ochreous, mixed with darker brown in disc and in fold, edged with deep brown along dorsal margin; fascia followed by a moderate cloudy brownish patch on vein 1b, in male altogether paler, less extended, partially ill-defined; a series of three approximated small dots on costa before middle, median smallest; from this group of dots originates a deep brownish-ochreous streak, strewn with dark brown, triangularly dilated on costa, running to upper angle of cell, thence curved upward,



Male genitalia of *Schoenotenes* MEYRICK. Fig. 464: *ophiodoru* spec. nov. Fig. 465: *microphthalma* spec. nov. Fig. 466: *chrysoconis* spec. nov., one cornutus strongly magnified. Fig. 467: *teratographa* spec. nov. Fig. 468: *dimorpha* spec. nov. Fig. 469: *chrysopluta* spec. nov. Fig. 470: *latenota* spec. nov.



sinuate, running posteriorly along vein 9 to costal patch, in male less distinct; a dark brown dot on costa before and beyond preceding streak, continued below by a short transverse ochreous strigula; a moderate transverse patch: on closing vein and beyond cell, respectively, both these patches obliterate in male; posterior third of costa with four large, somewhat elongate brown dots becoming smaller and paler posteriorly; first dot with an oblique moderate rather irregular brownish-ochreous streak almost to vein 6, narrowed and curved below; first dot connected by faint ochreous suffusion with following costal dot, together these dots indicate costal patch; in male only costal dots perceptible, smaller and fainter; a moderate subtriangular spot above dorsum before tornus, truncate and mixed with brown posteriorly, in male represented by a single brown point on vein 2; a conspicuous preterminal triangular mark, with base almost parallel to termen, running from termination of vein 2 to above vein 7, with top acutely projecting between veins 4—5, reaching more than halfway towards cell; this mark deep brownish-ochreous, with upper and lower parts and projecting top deep brown, its lower angle narrow; triangular mark in male entirely deep brown, narrower; edge of costa and dorsum between markings dotted with brown, termen with a row of dark brown dots on ends of veins. Cilia whitish, mixed with light ochreous, an interrupted narrow deeper ochreous antemedian fascia. Hind wing with veins 6 and 7 stalked; whitish with pale yellowish gloss, a marginal series of blackish round dots on veins 2—8, and faint greyish marbling along costa; cilia glossy whitish.

Tegumen robust. Uncus rather strong, hooked, apex slightly dilated, short-bifid, tops rounded. Socius, a moderate flap, bristled along edge. Gnathos strong, arms sinuate, top thickened, with two rising flattened truncate horns. Transtilla absent. Valva with costa concave, excavate posteriorly; cucullus thickened, curved, sacculus deeply excavate, with a short projection posteriorly, strongly bristled along outer side; harpe represented by an ovate, corrugated patch, edged with bristles. Aedoeagus pistol-shaped, two small dentations above orifice. Cornutus, a single spine. (Slide No. 701 D, allotype).

Genital segment broad below, abruptly narrowed, tubular above, membranous. Anapophyses dilated basally. Limen forming an ovate weak plate at each side, with dotted surface and a small crescentic rod in middle. Ductus bursae narrow, rather short, curved. Bursa copulatrix moderate, spheroid. Ovipositor weak, lobes rather broad, tortricoid. (Slide No. 694 D, holotype).

Lake Habbema, 3250—3300 m, August 21, 1938 (holotype, female), end July—end August, 1938. Moss Forest Camp, 2600 m, October 9—November 5, 1938 (allotype, male). Two males, eight females. Rather variable. We designate the female as holotype, as both male specimens are worn. A conspicuous, distinct species.

**Schoenotenes agana** spec. nov.*ἀγαρός* = lovely

♂ 18 mm. Head pale whitish-greyish. Palpus fuscous, basal segment, upper edge of median, and tip of terminal segment whitish. Thorax light ochreous. (Abdomen missing). Legs whitish, anterior and median tibia and tarsus infuscated, light-ringed. Fore wing elongate-subtriangular, rather narrow, costa curved anteriorly, straight posteriorly, apex subacute, termen almost straight, considerably oblique. Whitish touched with pale yellowish, retinate and partially suffused with light ochreous, markings dark fuscous. Three subtriangular small dots on base of costa, posterior dot continued across wing by a narrow suffused sinuate line of dark fuscous irroration before  $\frac{1}{4}$  of wing, outwardly concave above, straight below fold, to vein 1b; base of wing before this line denser suffused with light ochreous; an irregular semicircular small spot of fuscous irroration in middle of costa, edged anteriorly and posteriorly with dark fuscous, preceded and followed by a point on costa; a transverse somewhat outwardly oblique blotch of light ochreous suffusion, densely irrorated and suffused with dark fuscous, in disc running slightly before costal spot, reaching from above cell to fold, dilated in cell above parting vein; this blotch connected by sparse dark fuscous irroration with  $\frac{3}{4}$  of dorsum, ending with two moderate dorsal dots; four suffused light fuscous dots along posterior fourth of costa, and a strongly inwardly oblique patch of light ochreous suffusion running from these to posterior end of cell, dilated and irrorated with dark fuscous below, edging closing vein posteriorly; a faint light ochreous vertical strigula in tornus to below middle of disc; an erect-ovate preterminal light ochreous patch slightly irrorated with fuscous, tolerably parallel to edge of wing, from vein 4 to 7; a minute transverse light fuscous strigula before apex. Cilia whitish touched with ochreous towards base, with an interrupted fuscous antemedian line. Hind wing glossy pale whitish-ochreous; cilia white, touched pale ochreous.

Moss Forest Camp, five km northeast of Lake Habbema, 2800 m, October 25, 1938. One specimen.

**Schoenotenes microphthalma** spec. nov. (figs. 459, 465)*μικρός* = small, *οφθαλμός* = eye

♂ 17 mm, ♀ 19 mm. Head and thorax pale ochreous. Palpus whitish, suffused with grey laterally. Abdomen white in male, pale ochreous in female. Legs pale ochreous-white, anterior tibia and tarsus blackish, white-ringed; median tibia with dark grey knee, median tarsus dark grey, pale-ringed. Fore wing elongate-subovate, narrow, dilated; costa little curved anteriorly, straight in middle, somewhat more curved posteriorly; apex rather pointed, termen slightly sinuate, oblique. Pale ochreous-whitish, transversely strigulated and retinate with light ochreous, markings

brownish-black. A pair of fine transverse marks on base of costa connected along base of vein 12 with blackish-brown, followed in male by a pair of blackish-brown costal points; in female followed by an oblique series of some three blackish-brown points; a larger blackish-brown dot at or beyond  $\frac{1}{4}$  of costa, connected by a straight oblique series of blackish-brown dots (somewhat interconnected by brownish suffusion, almost obliterate in female) with a rounded large dark-brown spot on dorsum beyond middle, almost reaching cell, with upper edge bluntly angulate; a semicircular narrow interrupted streak of dark brown irroration, connecting two blackish dots on middle of costa (which are preceded and followed by a blackish costal point in female) with a faint greyish-fuscous suffusion in cell, which extends to dorsal spot, and is obliterate in female; four blackish-brown dots along posterior fourth of costa, first dot largest; in female also two small dark brown dots below posterior fourth of costa connected by a rounded spot of faint, pale ochreous suffusion with costa; an erect-ovate preterminal patch, base on vein 3, dilated above, top acutely narrowed, somewhat curved inwardly, almost to costa: ochreous, edged with brown except above; a few dark brown dots on dorsum before tornus; termen with a row of narrow short marginal dark brown streaks on veins. Cilia whitish touched with pale ochreous, an antemedian row of dark brown points. Hind wing and cilia pale ochreous-whitish.

Tegumen short, subconical. Uncus moderately long, robust, curved; hook bifid, horns somewhat thickened, with a longitudinal row of fine bristles above. Socius elongate, slender, pending. Gnathos complicated: pending, rectangular, a long thorn below middle of each arm directed mediad, a long horn at lower angle, directed laterad, and a moderate quadrident blade at base of preceding medianly; arms connected by a transverse rod, with a subtriangular lobe in middle. Transtilla absent. Valva moderate, costa bristled towards base, cucullus separate, concave and curved, spoon-like, covered with bifid flattened bristles, sacculus about  $\frac{2}{3}$ , edge excavate towards base. Aedoeagus with short, angulate base, straight posteriorly, abruptly swollen in middle, top rounded. Vinculum rather long. (Slide No. 691 D, holotype).

Female genitalia very similar to those in *S. aurispersa* spec. nov., but with limen more distinct, triangularly dilated laterally. Colliculum smaller, cylindrical. Ductus bursae extremely short. Bursa copulatrix smaller. Ovipositor broader, lower lobes simple. (Slide No. 690 D, allotype).

Lake Habbema, 3250—3300 m, end July—end August, 1938 (holotype, male). Moss Forest Camp, five km northeast of Lake Habbema, 2800 m, October 15, 1938 (allotype, female). One male, one female.

**Schoenotenes nanodes** spec. nov. (fig. 489)

*νανώδης* = dwarfish

♀ 9 mm. Head, antenna, palpus, thorax and legs whitish. Abdomen whitish, becoming greyish posteriorly. Fore wing rather broad, pointed,

broadest in middle; costa rather curved along anterior  $\frac{3}{5}$ , almost straight posteriorly; apex pointed, termen straight, oblique. Glossy white, slightly and minutely speckled with brownish, markings formed by sparse brownish irroration accentuated by a few dark fuscous scales. A small irroration at base of costa, a minute costal dot at  $\frac{1}{6}$ ; a narrow slightly outwards-oblique transverse fascia, indicated by a small transverse dot on costa before middle, and by a short streak across third fourth of wing just beyond middle; two approximated suffused and ill-defined dots on  $\frac{4}{5}$  of costa; a moderate irroration before middle of termen. Cilia white. Hind wing white with faint traces of fuscous speckling; cilia white.

Ovipositor lobes elongate, simple. Limen, a moderate band, dilated in middle so as to form a broad funnel, truncate below. Colliculum, a slender, weak funnel. Bursa copulatrix spheroid. Signum, a moderate clavate and verrucose body. (Slide No. 959 D, type).

Sigi Camp, 1500 m, February 24, 1939. One specimen. This is the smallest species of *Schoenotenes* known to us; it resembles a *Diactenis*, and has a peculiar facies, but according to the genitalia is nearest to the preceding species.

***Schoenotenes chrysoconis* spec. nov. (fig. 466)**

*χρυσός* = gold, *κόνη* = dust

♂ 17 mm. Head and thorax pale whitish-ochreous, vertex and tegula suffused with light golden-yellowish. Palpus pale fuscous. Abdomen ochreous-whitish. Legs whitish, anterior tibia and tarsus blackish-fuscous, light-ringed. Fore wing with raised scales along veins, elongate-triangular, dilated; costa curved towards extremities, almost straight in middle; apex subacute, termen faintly sinuate above, gradually rounded beneath, oblique. Pale ochreous-whitish, suffused with light yellowish-ochreous and scattered with scales of the same colour; markings dark brown. Ochreous-yellowish suffusion, more distinct along costa, fainter on and beyond cell and along fold; a small triangular dot on costa beyond base, followed by a minute longitudinal marginal mark; two small transverse streaks at about  $\frac{1}{5}$  to vein 12, united below that vein by a small patch of transverse strigulation, indistinctly and obliquely continued across wing to fold by groups of minute dark brown scales; a larger elongate dark brown dot below fold at about  $\frac{1}{4}$  of wing, and some dark transverse strigulation below this dot on dorsum; two small dots on costa, united by a line formed by groups of dark brown scales, so as to make a semicircular slightly dark brown-centred mark on middle of costa, slightly centred with dark brown; a faint oblique series of dark brown scales beyond and parallel to closing vein; another similar series, short, below and parallel to fold at  $\frac{1}{2}$ ; four rounded somewhat suffused larger costal dots on terminations of veins 11—8, two anterior dots forming, together with some dark brown dotting below costa, a slightly inwardly oblique triangular



mark, reaching below vein 9; vertical curved row of faint brownish specks in tornus to vein 4, a faint transverse preterminal streak between veins 5—7, parallel to wing edge; upper half of termen minutely edged with brown. Cilia yellowish-white, an antemedian row of dark brown blotches. Hind wing and cilia glossy yellowish-whitish, faint greyish marbling in apex.

Tegumen elongate, somewhat flattened laterally. Uncus rather narrow, angularly bent above base, hook dilated, elongate-ovate, slightly short-bristled above. Socius, a minute, rounded knob. Gnathos with strong porrect arms, with dilated, flattened tops. Transtilla strong, rising, an invert-Y-shaped body with rounded top. Valva rather short; cucullus with two club-shaped distal separate pads, bristled posteriorly, each with a strong sclerotized point in disc, directed basad; cucullus concave between these; sacculus projecting and bristled in middle above, with a brush of modified strong spines terminally. Aedoeagus moderate, pistol-shaped, ending in an acute point. Cornuti, a series of strong short spines, stellate and thickened at base. (Slide No. 679 D).

Moss Forest Camp, 2800 m, October 15, 1938. One specimen.

**Schoenotenes chalcitis** spec. nov. (fig. 463)

*χαλκίτης* = coppery

♀ 20 mm. Head light grey mixed with dark grey on vertex. Palpus dark grey, inner side light grey. Thorax light ochreous, densely mixed with bright ochreous, tinged olive. Abdomen pale ochreous, suffused with brown posteriorly. Legs pale ochreous-greyish, anterior tibia and tarsus, and median tarsus dark fuscous-grey, pale-ringed; median tibia with fuscous-grey basal half. Fore wing elongate-subovate, moderately broad, dilated; costa curved towards extremities, straight in middle, apex subacute; termen faintly sinuate, oblique. Pale whitish-ochreous, very densely and finely retinate with ochreous-olive; markings dark grey, densely mixed and irrorated with brownish-black. Short transverse streaks on base of costa, first narrow, second broad, both with a small irroration of blackish scales below; an erect-semioval, oblique, small transverse patch before  $\frac{1}{4}$  of costa, followed by a larger and more oblique one at  $\frac{2}{5}$ ; dorsum dotted throughout with brownish-black; with a moderate subquadrate patch at  $\frac{1}{4}$ ; upper angles of this patch forming short horns, not reaching fold, posterior horn larger, oblique; an outwardly oblique moderate transverse patch in middle of disc at  $\frac{1}{3}$ , not reaching edge of cell; posterior fourth of costa with four dots; first dot largest, quadrate, continued by irregular grey suffusion and blackish dotting, so as to form an oblique, wedge-shaped mark to  $\frac{1}{3}$  of vein 7; anterior edge of this mark below costa connected by a straight suffused streak with disc below upper edge of cell, in middle of wing; costa between markings finely dotted throughout with blackish; a rounded dot in middle of disc beyond cell; transverse vein

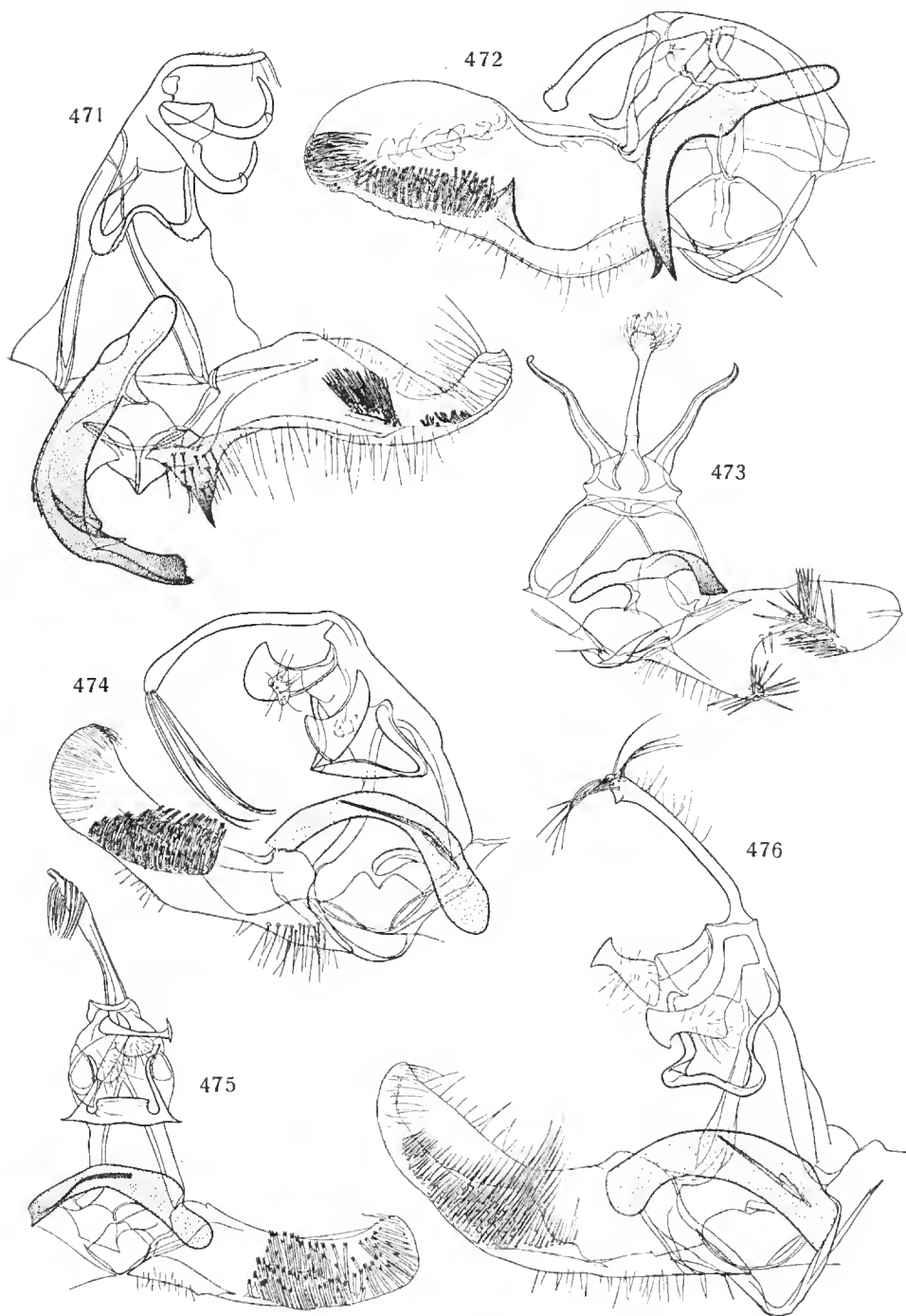
slightly suffused with greyish and brownish; an elongate-ovate small patch on  $\frac{3}{5}$  of dorsum, followed by a vertical curved patch before tornus, reaching to vein 4; an irregularly pear-shaped preterminal patch, from between veins 3—4, with narrow top to posterior portion of vein 7, surmounted by a moderate subtriangular dot on vein 8; terminal edge with small longitudinal brownish-black streaks on veins. Cilia whitish, basal half barred with blackish-brown, tips greyish. Hind wing rather dark grey, becoming pale greyish-white towards base, dark grey towards apex; cilia whitish, an antemedian row of blackish dots along costa in apex, and along upper half of termen.

Genital segment membranous, forming a flattened collar around ovipositor, which has moderate, elongate lobes, supported inwardly by a narrow strong circular rod. Linen indefinite. Colliculum short, annular. Ductus bursae long (bursa copulatrix absent in mount, abdomen being strongly damaged by Adephaga. Slide No. 693 D).

Lake Habbema, 3250—3300 m, end July—end August, 1938. One specimen.

*Schoenotenes aurispersa* spec. nov. (fig. 462)

♀ 20.5—21.5 mm. Head and thorax pale ochreous, slightly suffused with light ochreous, the latter with a narrow antemedian transverse brownish line, obliterate in middle. Palpus long, sinuate, pale ochreous-whitish, median segment suffused or mixed with greyish. Abdomen pale ochreous-brownish. Legs pale whitish-ochreous, anterior tibia and tarsus blackish-brown above, light-ringed. Fore wing elongate, rather narrow, moderately dilated; costa moderately curved anteriorly, straight posteriorly; apex rather pointed, termen faintly sinuate, oblique. Pale ochreous-whitish, transversely strigulated with strongly sinuate, partially interrupted ochreous strigulae, markings brownish-black. Base of costa with a short transverse streak clavate below, followed below fold by a series of three small round dots parallel to dorsum; a pair of dark grey points on costa beyond preceding, followed by an oblique series of three small round dots running to  $\frac{1}{3}$  of fold; an oblique transverse series of brownish-black markings from  $\frac{1}{4}$  of costa to dorsum before tornus, suffused with ochreous, shaped as follows: a short oblique streak on costa, two round dots just above and below upper edge of cell, a large round dot just above fold, groups of brownish-black scales below and along fold posteriorly, and a fine U-shaped mark on dorsum; an erect-semiovate moderate vertical patch on dorsum beyond middle, interrupted in middle, reaching to fold; a small round dot on costa before middle, preceded and followed by a smaller dot; an oblique short series of irregular small spots from below and before the first above mentioned dot, to upper angle of cell, narrowed below, suffused with deep ochreous; a larger triangular dot before  $\frac{3}{4}$  of costa; two rounded dots below this dot, filled with deep-ochreous, this



Male genitalia of *Schoenotenes* MEYRICK. Fig. 471: *pachydesma* spec. nov. Fig. 472: *cyclicophora* spec. nov. Fig. 473: *platyptila* spec. nov. Fig. 474: *phloeotis* spec. nov. Fig. 475: *velutina* spec. nov. Fig. 476: *mesotrauma* spec. nov.

colour forming a sinuate transverse strigula, narrowed and paler below, to dorsum before tornus; three small dots along costa posteriorly, last one just before apex; an angulate transverse streak of deep ochreous suffusion before apex, mixed below with brownish-black, connected with an ovate preterminal patch of deep ochreous suffusion; anterior half of this patch brownish-black, between veins 2—5; a row of dark points on terminations of veins. Cilia pale whitish-ochreous, an antemedian row of dark points; costal cilia barred with dark grey opposite dark markings. Hind wing glossy whitish-ochreous, tinged greyish; faint grey marbling along costa and apex; cilia ochreous-whitish, a faint subbasal darker line.

Genital segment membranous, limen indefinite, upper edge slightly indent towards middle, weak finely haired folds present laterally. Colliculum large, subconical, narrowed towards ductus. Ductus bursae short, narrow, coiled. Bursa copulatrix small, spheroid. Ovipositor erect, lobes narrow, bifid below: a moderate projecting part, and a narrow downward curved part, supported by a short curved rod. (Slide No. 689 D, holotype).

Lake Habbema, 3250—3300 m, August 19, 1938 (holotype, female); end July—end August, 1938. Three specimens.

***Schoenotenes latenota* spec. nov. (fig. 470)**

♂ 20 mm. Head sordid pale whitish-ochreous, tinged fuscous. Palpus dark fuscous, basal segment and lower edge of median segment anteriorly whitish, terminal segment whitish, with a dark fuscous median ring. Thorax sordid pale whitish-ochreous, mixed with greyish-fuscous. Abdomen pale whitish-ochreous. Legs whitish-ochreous, anterior and median tibia and tarsus dark fuscous, light-ringed. Fore wing elongate-subtriangular, rather broad, costa curved anteriorly, scarcely curved posteriorly, apex subobtusely, termen slightly convex, little oblique. Pale ochreous-white, coarsely irrorated and partially suffused with light brown, markings dark brown. Base of costa slightly suffused with dark brown; an oblique suffused brown streak to fold followed by ochreous-brown suffusion and an irregular brown spot below fold; two small dots on costa beyond preceding; two dots in upper half of disc below posterior costal dot; a wedge-shaped small mark before  $\frac{1}{4}$  of costa, followed by two small costal dots; a semicircular moderate light brown spot on middle of costa, slightly suffused with greyish, edged except below, and strigulated, with dark brown; an elongate patch of light brown suffusion on posterior half of costa, mixed anteriorly and along parting veins with dark brown; a wedge-shaped projection beyond cell posteriorly about between veins 9—10 halfway to costal patch; coarse dark brown dotting along posterior half of fold, fainter along posterior  $\frac{3}{4}$  of dorsum, ending before tornus with an erect moderate vertical spot of brownish irroration, obscured by dense brown strigulation across lower  $\frac{2}{3}$  of wing at  $\frac{3}{4}$ ; one-two dark brown dots on veins beyond cell; costal patch formed by two rather large



dark brown dots at  $\frac{3}{4}$ , connected below costa by a subtriangular brown spot strigulated with dark brown; top of costal patch inwardly oblique, between veins 9—10; this patch preceded on costa by two small dark dots; a large preterminal patch between veins 3—7, anterior edge bent and projecting in middle; this patch light brown, tinged greyish, edged and strigulated with dark brown; two small dark brown dots before apex; terminal edge irrorated with brown, apex edged with dark brown. Cilia whitish tinged pale ochreous, an antemedian row of short dark brown streaks, base of cilia opposite these tinged light ochreous, costal cilia with dark brown bars opposite dots. Hind wing glossy whitish, slightly clouded with pale fuscous, apical fourth with faint transverse strigulation, and marbled with grey; a row of minute faint fuscous dots on terminations of veins along termen and in apex. Cilia sordid whitish.

Tegumen elongate, strong. Uncus moderate, base elongate-conical, hook moderate, apex with a slender spine ventrally and a brush of bristles before this dorsally. Socius, only two bristles. Gnatlios short, robust, median projections truncate, top broad, with finely dentate edge. Transtilla, a slender rod, slightly curved downward. Valva elongate, costa broad, cucullus an oblique narrow terminal patch, sacculus  $\frac{1}{2}$ , with a brush of bristles at base, strongly excavate beyond this brush, with a long terminal hook directed downward and bristled at the top, a moderate pad at its base covered with fine long bristles. Aedocagus moderate, without cornuti. Anellus with a dilatation at each side. (Slide No. 717 D).

Lake Habbema, 3250—3300 m, July 26, 1938. One specimen.

*Schoenotenes plagiostibus* spec. nov. (fig. 450)

$\pi\lambda\acute{\alpha}\gamma\mu\omicron\varsigma$  = oblique,  $\sigma\tau\acute{\iota}\beta\omicron\varsigma$  = trail

♀ 18—19 mm. Head white, thorax isabel-whitish, a round blackish median spot, shoulder slightly irrorated with black scales. Palpus white, mixed with pale fuscous, terminal segment pale fuscous. Abdomen white. Legs white, anterior tibia and tarsus dark greyish-fuscous above, pale-ringed. Fore wing elongate, rather narrow, raised scales along veins, tufts small. Creamy-white, markings black. Base of costa faintly suffused with greyish, base of costal edge dark grey; eleven black dots along costa, first dot subquadrate, fourth and fifth approximated, much smaller, eighth-tenth larger, subtriangular, slightly suffused, ultimate dot minute, all alternating with minute transverse marks; some blackish scales below base of costa; an almost vertical row of three slightly elongate-oblique dots at about  $\frac{1}{4}$ , first dot just below and beyond second costal dot, forming together with it a small transverse mark, third dot on fold, second halfway between those; an oblique series of three more black dots: first largest, elongate-oblique, at  $\frac{1}{3}$  of wing between upper edge of cell and parting vein, third dot small, round, slightly beyond middle of wing just above fold, second round, intermediate; a faint small triangular oblique patch

of greyish suffusion below middle of costa, acute top reaching cell, with one small black marginal dot anteriorly, two posteriorly, sometimes only these dots preceptible, or these markings altogether obliterate; sometimes a pair of blackish points below costa beyond the last mentioned markings; a narrow vertical, curved and interrupted streak in tornus to vein 4, two rounded dots above this; on vein 6 and above vein 9, respectively; some ill-defined greyish transverse marks beyond the last mentioned dots, sometimes indicating a faint irregular transverse line connected with tornal streak; a conspicuous erect-semiovate transverse dot before termen between veins 4—6, another narrower dot beyond and parallel to this between veins 5—8, a pair of narrow transverse strigulae below those, marginal; terminal edge narrowly blackish-brown; a minute transverse strigula before apex. Cilia creamy-white, an antemedian row of minute dark grey points. Hind wing glossy isabel-white, towards apex becoming semitransparent, tinged with very pale yellowish. Cilia white, touched with pale yellowish.

Genital segment and ovipositor entirely finely short-haired. Limen broad, much dilated in middle, forming two rounded thickened pads. Eighth segment with a strong thickened and concave elongate lobe at each side, dorsally with a swollen transverse finely scobinate body, and a strong smooth dorsal projection, triangularly dilated and truncate above. (Slide No. 676 D, holotype).

Moss Forest Camp, 2600—2800 m, October 9—November 5, 1938 (holotype, paratype, females). Iebèlè Camp, 2250 m, November 7, 1938 (paratypes). Four specimens.

*Schoenotenes velutina* spec. nov. (fig. 475)

♂ 18.5—20 mm. Head and thorax light isabel-coloured. Palpus slender, moderately long, isabel-colour, median segment abruptly expanded towards base, upper edge slightly infuscated, apex whitish. Antenna fuscous-tinged, scape creamy. Abdomen silvery-white. Legs white, touched with ochreous, anterior tibia and tarsus dark grey above, pale-ringed. Fore wing with ridges of raised scales along veins, tufts distinct. Whitish, tinged isabel, rather regularly transversely strigulated and retinate with moderate isabel-coloured striae which are partially mixed with sparse greyish-fuscous scales. About ten black dots along costa becoming dark blackish-fuscous before apex, first dot large, triangular, fourth and sixth much smaller and paler than other, seventh-ninth dots alternating with blackish points; four transverse striae, rather distinct and uninterrupted, originating from second-eighth costal dots, tolerably parallel, outwardly curved, rather oblique, first stria to  $\frac{1}{4}$ , fourth to beyond middle of dorsum; sixth stria broader, interrupted above and below middle of disc, rather straight, from eighth costal dot at about  $\frac{3}{4}$  of costa, to dorsum before tornus; two similar streaks before termen, irregularly interrupted, rather obliquely to

termen above tornus, a minute strigula before apex; a patch of ill-defined fuscous-isabel suffusion on cell before middle of wing, a faint greyish circular mark just below fifth costal dot not reaching cell; terminal edge with a narrow brownish marginal line. Cilia pale creamy-white, an antemedian row of small blackish dots. Hind wing and cilia glossy white.

Tegumen elongate, posterior half rounded. Uncus narrowed above, excavate below base of a long terminal projection which is pointed, and bears a row of pending strong bristles along edge on each side. Hamus long, strong, with a curved, spoon-shaped top. Socius moderate, attached to the inner side of hamus. Gnathos strong, trapezoid, transverse bar straight, ending in a sharp point on each side. Transtilla absent. Valva narrow, not dilated, slightly curved, truncate, cucullus and posterior half of sacculus with strong flattened bifid bristles. Aedoeagus moderate, pistol-shaped, distal third curved downward. Cornutus, one strong, bent spine. (Slide No. 670 D, holotype).

Top Camp, 2100 m, January 27, 1939 (holotype), January 25, 1939. Two specimens.

**Schoenotenes prophanes** spec. nov. (fig. 479)

*προφανής* = conspicuous

♀ 22 mm. Head pale whitish-yellow, face white below. Antenna blackish; scape white, mixed with black. Palpus moderate, subascending, roughish above; blackish-fuscous, greyish-white on inner side, along upper edge of median segment mixed with whitish-yellow; terminal segment whitish towards base and tip. Thorax white, pale yellow anteriorly (denuded elsewhere). Abdomen dark tawny-grey, edge of subgenital segment suffused with pale ochreous, venter white, ovipositor light brown. Legs white, all tibiae and tarsi suffused with dark grey, white-ringed. Fore wing with slightly raised scales along terminal veins, tufts small, strongly raised; elongate-subtriangular, dilated; costa moderately curved anteriorly, almost straight posteriorly; apex little obtuse, termen hardly sinuate, moderately oblique. Whitish, evenly suffused with pale yellowish-ochreous, markings jet-black. A triangular patch on base of costa, with top truncate, to vein 12, continued anteriorly by a narrow streak to fold beyond base; a moderate transverse fascia from before  $\frac{1}{4}$  of costa to  $\frac{1}{3}$  of dorsum, triangularly narrowed as far as  $\frac{1}{3}$  of disc, thence gradually moderately dilated as far as fold, abruptly dilated and almost twice as broad below fold; a somewhat elongate, invert-trapezoidal patch on middle of costa, occupying  $\frac{1}{4}$  of its length, reaching to upper edge of cell, anterior edge oblique, posterior slightly convex; an oblique elongate irregular fascia from below middle of upper edge of cell to posterior  $\frac{1}{5}$  of dorsum, with top somewhat narrowed and rounded; anterior edge of this fascia with a small blunt projection in fold, slightly concave on dorsum; posterior edge of fascia with a deep semicircular excavation below middle, reaching beyond middle of the

breadth of fascia; posterior edge of this excavation forming a vertical acute projection reaching to vein 5; a triangular, little rounded patch along fifth sixth of costa, somewhat inwardly oblique, almost to vein 8; a vertical erect blotch between veins 4—7, almost touching top of preceding, connected by a faint line of blackish irroration with acute projection of the above mentioned dorsal marking; a vertical elongate-ovate patch with somewhat narrowed base, resting on termen between terminations of veins 3 and 4, with top truncate; two dots on costa before apex, first triangular, second smaller, narrowly elongate; a marginal row of much smaller triangular dots on veins along termen. Cilia dark grey, basal third blackish-grey; along costa cilia white, with black bars opposite markings. Hind wing glossy whitish, densely suffused with dark grey on dorsum, along anal veins, and on posterior  $\frac{3}{5}$ ; an irregular almost marginal white fascia, strongly dilated towards costa, partially dissolved in rounded spots, running from base of vein 2 to costa before apex, preceded and attenuated anteriorly by an irregular fascia of blackish suffusion, which is triangularly dilated on costa and preceded by a few blackish dots. Cilia and basal pencil of hairs on vein 1b, dark fuscous.

Seventh as well as eighth segment strongly sclerotized, short-haired, the former forming a broad funnel, in which fits the latter, also funnel-shaped, plicate; base of seventh segment ventrally with a deep, triangular incision below, rims thickened. Ductus bursea very short. Bursa very small. Ovipositor lobe reniform. (Slide No. 681 D).

Moss Forest Camp, five km northeast of Lake Habbema, 2800 m, October 19, 1938. One specimen. Allied to *S. lichenochroma* spec. nov.

### *Schoenotenes lichenochroma* spec. nov.

*λειχήν* = lichen, *χρῶμα* = colour

♂ 20 mm. Head whitish tinged pale ochreous. Antenna dark grey, scape white. Palpus moderately long, ascending, white; median segment except base and apex, blackish-fuscous. Thorax white, a transverse antemedian black band, and a subapical black spot, tegula with a broad longitudinal median band and apex, black. (Abdomen missing). Legs greyish-white, anterior tibia and tarsus blackish, except above and around articulations, median and posterior tibia and tarsus with broad blackish rings. Fore wing rather smooth, scale-tufts flattened; elongate-triangular, little dilated; costa gradually curved anteriorly, hardly curved posteriorly; apex sub-acute, termen gently sinuate, little oblique. Whitish, tinged pale ochreous, markings black. A large V-shaped mark on basal fourth of costa, arms broad, anterior arm from base of costa, with lower edge along fold, rectangularly excavated below costa, slightly convex where traversing fold; posterior arm of the V almost vertical; top of the V acute, connected with a rounded spot on dorsum beyond  $\frac{1}{3}$ ; a semioval patch on middle of costa with a small oblique curved appendix below posteriorly, which is



almost connected with a large outwardly oblique transverse blotch on dorsum beyond middle; anterior edge of this blotch twice moderately excavate, upper edge concave, posterior with a deep indentation above; a small semiovate spot on costa before  $\frac{2}{3}$ ; a moderate subtriangular costal patch along fifth sixth of costa, with anterior edge vertical, concave, posterior edge oblique, convex; a small wedge-shaped white costal mark in middle; a rounded dot before apex; a large thick N-shaped black mark before termen, with upper anterior arm narrow, connected with costal patch, upper posterior arm broad, rounded; anterior lower arm of the N broad, connected with the preceding dorsal patch, posterior lower arm narrow, to termen above tornus; dorsal patches broadly interconnected along dorsum; black points on terminations of veins 3—8, two last points largest. Cilia white, minute longitudinal black streaks opposite veins 7 and 8, respectively. Hind wing rather dark grey, dotted with whitish along termen and in apex; cilia white from apex to middle or termen, light grey elsewhere.

Mist Camp, 1800 m, January 8, 1939. One specimen. A very distinct, conspicuously marked species. Perhaps allied to *S. saliaris* MEYRICK, 1928, from New Ireland.

*Schoenotenes mesotrauma* spec. nov. (fig. 476)

μέσος = middle, τραῦμα = a wound

♂ 20 mm. Head and thorax whitish-grey, suffused and mixed with darker fuscous-grey. (Palpi missing). Abdomen white. Legs whitish, anterior tibia and tarsus banded with dark grey. Fore wing elongate-subovate, rather broad, discal and plical patches of thick raised scales and ridges of raised scales along veins. Costa considerably curved anteriorly, straight posteriorly, apex rounded-pointed (just above vein 7); termen slightly concave below apex, rounded below. Whitish-grey, partially cloudily suffused with darker grey, tinged lilac. A transverse short clavate blackish-brown mark on costa beyond base, narrowly edged with yellow below; a series of nine black dots along costa, from beyond this mark to apex, becoming paler posteriorly, second connected below with a small yellow dot mixed with blackish; fourth dot larger, submedian, connected below with three unequal quadrate dots arranged in a circle, yellowish, more or less mixed with blackish; a faint grey suffusion below posterior fourth of costa; dorsum below vein 1b suffused with grey, dotted with ground colour; an oblique yellow streak from beyond base of wing, along anterior half of wing, running above and parallel to dorsum; upper edge of this streak edged with blackish, with two small patches of bright reddish-fulvous scales anteriorly; upper edge of streak a narrow blackish projection anteriorly, almost connected with first costal mark; another curved projection rising from the middle of upper edge of subdorsal streak extended in middle of disc so as to form two rounded yellow dots, irrorated

and edged with dark brown; a narrow oblique slightly curved yellow streak, irrorated and edged with dark brown, from upper edge of cell at  $\frac{1}{3}$  of wing length to vein 1b before middle of disc, posterior edge with a short projection below middle in left wing, twice slightly indent in right; preceded by a conspicuous, broad thickened patch of raised brightly reddish-fulvous scales; followed by an oblique patch of coarse, pale grey retination, from upper edge of cell to above dorsum; an inwardly oblique pair of small yellow dots below and before fifth costal dot, lower larger, round, just above cell; a ridge of raised orange scales along transverse vein, forming a ring together with a gradually semicircular narrow, yellow, dark brown edged, transverse streak beyond preceding; a narrow longitudinal yellow mark edged and irrorated with blackish, below and before sixth costal dot, narrowed and curved downward posteriorly; this mark connected below by a narrow greyish line with a vertical yellow dark-edged mark, slightly above dorsum just before tornus; a rather narrow, elongate, vertical preterminal patch, slightly outwardly curved, from termen above tornus to vein 9, top narrowed. Cilia (imperfect) white, a faint antemedian row of blackish points. Hind wing glossy white, touched with yellowish, cilia white.

Tegumen strongly elongate. Uncus long, slender, slightly clavate, and bristled terminally. Hamus strong, basal part dilated posteriorly, apical part separate, with a moderate projection below, constricted below apex, which has the shape of a small flattened spoon. Socius a group of bristles at inner side of preceding. Gnathos moderate, twice rectangularly bent, arms and transverse part sinuate. Transtilla absent. Valva narrowed, concave, sacculus dilated and strongly bristled posteriorly, bristles simple. Aedoeagus broad, curved. Cornutus, a single spine. (Slide No. 699 D).

Sigi Camp, 1500 m, February 24, 1939. One specimen. Distinct by colouring. Belongs to the *S. subcrocata* group.

#### ***Schoenotenes sufflava* spec. nov.**

♂ 22 mm. Head and thorax dirty whitish-grey. Palpus whitish, median segment with an oblique median greyish suffusion, fringe above mixed with greyish-fuscous; terminal segment greyish-fuscous. (Abdomen broken). Legs whitish, anterior infuscated, pale-ringed. Fore wing white, with dense transverse pale greyish-fuscous strigulation; with markings fuscous-grey along costa, rather bright light ochreous narrowly edged with blackish-fuscous elsewhere, turning pale greyish-fuscous on dorsum below fold. Costa with nine moderate dark fuscous-grey rounded dots; first dot larger, slightly mixed with ochreous, and edged anteriorly and below with blackish; second dot erect-rectangular, connected below with a moderate erect-quadrangular patch, which is ochreous, reaching slightly below middle of disc, almost connate below with two other patches: an erect-ovate patch obliquely to dorsum beyond base, and a broader rectangular

vertical patch at about  $\frac{1}{4}$  of dorsum, with posterior edge continued across disc, so as to form a short inwardly oblique line almost reaching middle; a large transverse band, originating from upper edge of cell at  $\frac{1}{3}$ , with rounded upper top, running outwardly oblique in disc to vein 3 beyond middle of wing, thence bifid; anterior branch slightly inwards-oblique to dorsum before middle, posterior branch narrowed, vertical; this branch preceded by two large whitish-grey scale-tufts, at  $\frac{1}{3}$  and  $\frac{2}{3}$  of wing breadth, respectively, and by a narrow greyish striga descending vertically on dorsum; upper extremity of transverse fascia surmounted by an irregular triangular moderate patch below costa before middle; a moderate rounded spot beyond middle at  $\frac{1}{3}$  of disc, with two vertical greyish strigulae, almost connected below with preceding markings; a rather large rounded discal patch beyond cell, edged by a ridge of white and blackish scales on closing vein, connected above with preceding mark, connected below by a greyish, slightly curved line with dorsum; sixth and seventh costal dots united by a semicircular transverse mark, below slightly projecting and connected by a curved greyish line with an erect-rounded patch in tornus; a more or less interconnected series of small grey dots from costa beyond preceding to vein 6; an erect-ovate preterminal blotch from vein 4 to 8 parallel to termen, slightly constricted in middle. Cilia white, with an antemedian series of flattened V-shaped blackish marks. Hind wing semipellucant, silky-white; cilia silky-white.

Moss Forest Camp, five km northeast of Lake Habbema, 2800 m, October 25, 1938. One specimen. Allied to *S. subcroceata* MEYRICK.

**Schoenotenes phloeotis** spec. nov. (fig. 474)

*φλοιότης* = bark-like

♂ 21 mm. Head greyish-white, or fuscous-white, vertex slightly infuscated. Palpus whitish, densely suffused with fuscous-grey, except base, upper edge of median, and tip of terminal segment. Thorax whitish-fuscous or light fuscous, more or less suffused with greyish. Abdomen whitish-ochreous, anal tuft whitish-golden, tip white. Legs ochreous-white, anterior tibia, and tarsus, and median knee, suffused with blackish. Fore wing with raised scales along veins, tufts large; elongate-subtriangular, moderately dilated, costa gradually curved throughout; apex subobtusate, termen straight, moderately oblique. Whitish, tinged fuscous or pale fuscous, retinate and transversely strigulated with darker greyish-fuscous, markings light tawny-fuscous, partially edged with fuscous-blackish lines. Costa with a small dark fuscous suffusion at base, and a row of nine moderate blackish-fuscous dots, becoming large and dark grey posteriorly, alternating with dark points; a large irregular mark on  $\frac{1}{4}$  of dorsum reaching to below costa; an erect-rectangular slightly outwards-oblique spot on costa reaching to fold, connected with two spots of the same colour between fold and dorsum; these dorsal spots slightly inwards-oblique, interconnected

along dorsal edge; anterior of these spots almost twice as broad, edged with blackish-fuscous; a streak of this colour in fold; a moderate median fascia from below costa before middle to dorsum beyond middle, rounded above, lower fourth abruptly dilated, with anterior edge concave, preceded by a large plical tuft of raised sordid greyish-ochreous scales, posterior edge convex, scobinate, with two rounded projections; a faint greyish-fuscous suffusion below middle of costa, almost horizontally continued to upper angle of cell, and becoming greyish-ochreous posteriorly; this suffusion connected with a large rounded-ovate transverse patch beyond cell, which is preceded by a ridge of raised whitish scales along closing vein; dorsum below this patch coarsely strigulated with blackish-fuscous; an elongate greyish suffusion, connecting sixth and seventh costal dots; a rounded patch on dorsum before tornus; an erect-ovate rather dark fuscous-tawny preterminal patch from vein 3 to 8, with anterior edge excavate above middle, rounded below, posterior edge rather straight, parallel to margin; apex slightly suffused with greyish. Cilia creamy-whitish, an antemedian row of slightly curved or angulate transverse blackish-fuscous streaks. Hind wing dull whitish tinged fuscous, becoming glossy towards edge; cilia creamy-white.

Tegumen elongate-triangular. Uncus rather small, with an extremely long, curved, terminal projection, apically slightly dilated and with some six very long strong bristles. Hamus broad, short, dilated, bluntly rounded and hooked above. Socius, a weak pad with long bristles, on middle of inner surface of hamus. Gnathos, a narrow subquadrate rod, with median part rounded and projecting ventrally. Transtilla absent. Valva long, rather narrow, slightly narrowed before top; cucullus rounded, sacculus with a strong elongate projection covered with dense bifid bristles. Anellus strong. Aedocagus strongly curved, abruptly narrowed at  $\frac{1}{3}$ . Cornutus, a long spike. (Slide No. 654 D, holotype).

Moss Forest Camp, five km northeast of Lake Habbema, October 17, 1938 (holotype, female; paratypes). Three specimens. Closely allied to the preceding species, differing by the tawny, instead of ochreous markings, by the shape of preterminal patch, and by the fuscous-tinged hind wings.

**Schoenotenes platyptila** spec. nov. (figs. 473, 477)

$\pi\lambda\alpha\tau\acute{\upsilon}\varsigma$  = broad,  $\pi\tau\acute{\iota}\lambda\omicron\nu$  = wing

♂ 22 mm, ♀ 25 mm. Head and thorax in male grey, slightly mixed with white, in female white, mixed with grey, vertex grey. Antenna whitish, ringed with grey; scape white, grey above. Palpus long, slender, whitish mixed with grey, median segment with upper edge posteriorly and lower edge anteriorly, white. Abdomen pale ochreous in male, ochreous-whitish in female. Legs whitish touched with ochreous, anterior tibia and tarsus grey above, light-ringed. Fore wing with faintly raised scales along veins, tufts small; broad, dilated, elongate-triangular, costa curved throughout;



apex subacute in male, subobtuse in female, termen hardly sinuate in male, almost straight in female, moderately oblique. Whitish, retinate and strigulated with undulate transverse fuscous-grey lines, markings blackish-fuscous. Male. Extreme base of costal edge blackish, a small black transverse mark beyond base and eight or nine blackish dots, becoming larger and greyish-fuscous posteriorly, continued by short series of blackish dots tending to form narrow oblique transverse strigulae to above cell; strigula from below second costal dot almost complete, running obliquely to middle of disc before middle of wing, thence continued by transverse strigulae of blackish retination to a suffused grey spot on  $\frac{3}{5}$  of dorsum; second similar transverse streak from median costal dot obliquely to upper angle of cell, gradually convex around end of cell, becoming grey below, vertical, to  $\frac{4}{5}$  of dorsum; a small blackish patch below costa before middle; an elongate-ovate irregular dark grey suffusion below sixth costal dot, mixed with blackish, and connected by an interrupted blackish fascia with tornus; a preterminal dark grey, black-edged fascia from tornus to about vein 8, strongly constricted on vein 3, forming a narrow branch on vein 5, which runs obliquely to sixth costal dot; transverse darker grey strigulation in middle of disc; markings much obscured by grey transverse strigulation and retination, posterior half of wing also slightly suffused throughout with greyish; terminal edge grey. Female. Paler, markings somewhat more fuscous, partially obliterate; wing not retinate, only irrorated with grey; costal dots larger, a black dot below first dot, a V-shaped mark below second, continued by an oblique fascia of blackish irroration, gradually somewhat dilated below, to  $\frac{3}{4}$  of dorsum; eight costal dots; fifth with a circular greyish spot below; preterminal mark indicated only by dark fuscous edge of posterior arm of the "Y"; this arm ovate, open above, sometimes connected by two narrow parallel curved lines with sixth and seventh costal dots, the stalk and the anterior mark obliterate. Cilia in the two sexes white, an antemedian row of V-shaped small dark grey marks. Hind wing and cilia glossy white, costa before apex faintly speckled with grey.

Tegumen broadly triangular, rather short, arms little dilated posteriorly. Uncus broad, very short, with small triangular lateral knobs; terminal projection narrow, long, triangular, abruptly clavate and bristled at the top. Hamus strong, narrow, sinuate, top curved. Socius, gnathos and transtilla absent. Valva elongate, costa little curved, cucullus blunt, moderately bristled. Sacculus with a deep semicircular excavation beyond middle, a small rounded and bristled knob before this excavation, a ridge of long, strong bristles beyond excavation. Harpe, a bristled longitudinal ridge. Disc with a row of fine bristles. Anellus, broad elongate-ovate. Aedoeagus rather slender, sclerotized, curved towards apex, which is flattened dorso-ventrally and truncate. Anellus long. (Slide No. 660 D, holotype).

Ostium broad, compressed dorso-ventrally. Limen broad, strong, upper

edge with shallow excavations: in middle and at the sides, lower edge with small triangular projections laterally, dentate in middle. No colliculum. Ductus bursae broad, short, one side sclerotized. Bursa copulatrix small, not broader than ductus. Eighth segment forming a wide collar around ovipositor, which is cup-shaped, a dorso-median bilobed plate, distal lobe small, proximal strongly thickened. (Slide No. 661 D, allotype).

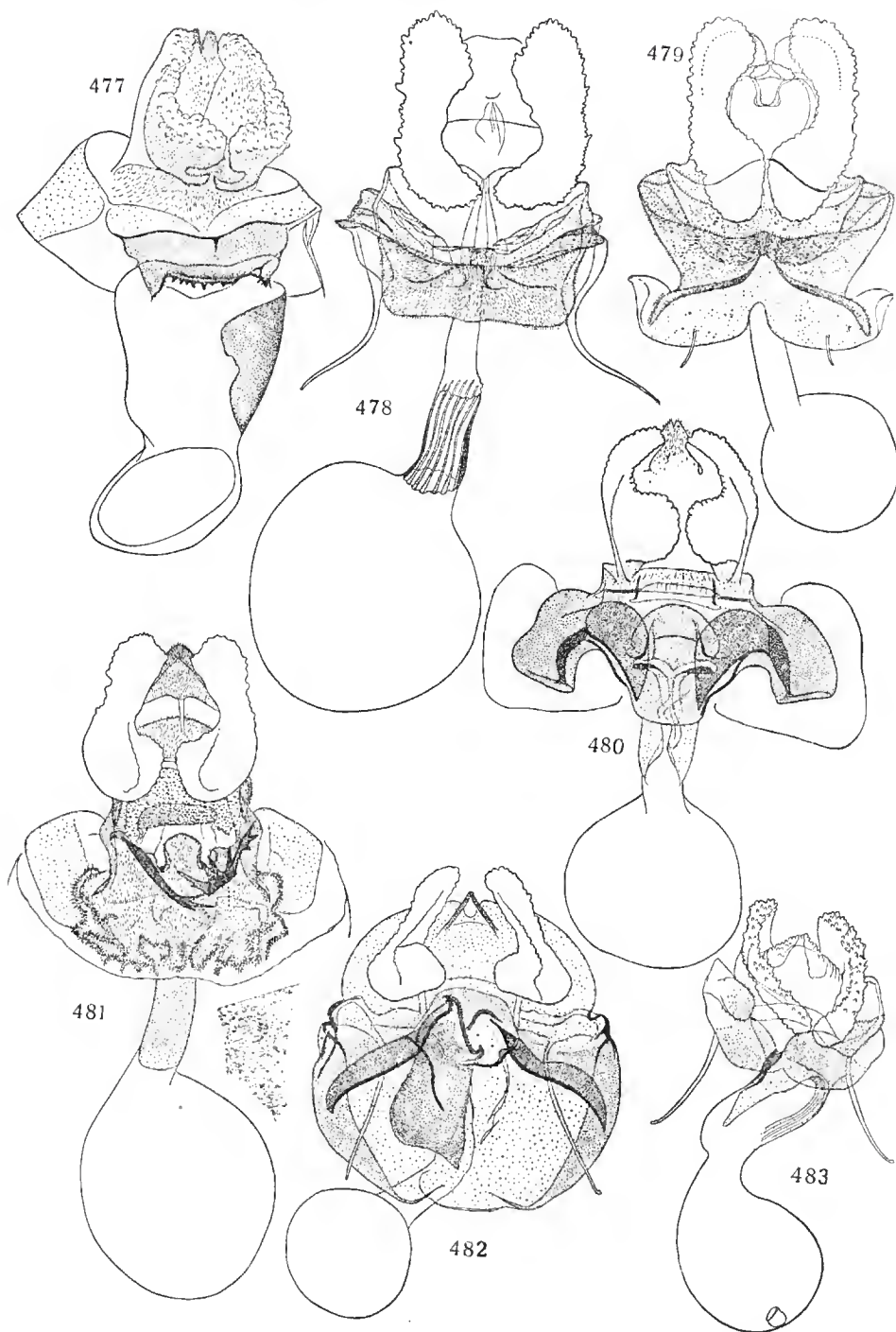
Lake Habbema, 3250—3300 m, August 26, 1939 (holotype, male), October 9, 1939 (allotype, female). Moss Forest Camp, 2600—2800 m, October 9—November 5, 1938. One male, two females. Allied to *S. argyrolemma*, and to *S. aphrodes*, distinct by large size and shape of preterminal mark.

**Schoenotenes halirrhothia** (MEYRICK, 1938) (fig. 486)

*Harmologa halirrhothia* MEYRICK, 1938, Trans. Ent. Soc. Lond., vol. 87, p. 507.

Distribution: Papua: Mount Tafa, 1800 feet.

♂ 20 mm. Head creamy-white, vertex and tips of side-tufts dark greyish-fuscous. Palpus creamy-white, densely suffused with fuscous-grey, median segment with upper edge anteriorly, and with lower edge posteriorly dark grey. Thorax creamy-white, centred with dark greyish-fuscous. Abdomen pale whitish-ochreous, suffused with grey above. Legs whitish, anterior tibia and tarsus blackish, pale-ringed, posterior leg slightly touched with ochreous. Fore wing with raised scales along veins and with scale-tufts; elongate-subovate, little dilated; costa gradually curved from base to apex, less so posteriorly, apex subobtuse, termen straight, little oblique above, rounded beneath. Creamy-white, somewhat paler posteriorly, densely retinate and dotted with fuscous, ground colour forming numerous rounded patches of different size, markings dark-fuscous. Anterior third of wing, except a triangular spot of ground colour at base of wing, suffused with dark fuscous, with numerous rounded dots of ground colour; this suffusion darkest along costa, especially at its base, and forming a row of blackish-fuscous small dots along costa throughout; this suffusion transgressing in a paler greyish-fuscous suffusion, with an irregular edge, from below costa at  $\frac{1}{3}$ , running almost horizontal to about middle of upper edge of cell, thence to dorsum before tornus; several longitudinal rows of elongate-ovate dots of ground colour, two rows of largest dots from base to about middle of wing, just above and slightly below fold, respectively; a large tuft of raised scales in fold beyond middle, creamy-white anteriorly, blackish-fuscous posteriorly; a row of moderate dots of ground colour along dorsal edge; a suffused moderate dark fuscous spot on  $\frac{1}{4}$  of costa; central fascia indicated by an ovate-triangular moderate patch on costa just before middle, and by a narrow, zigzag fuscous streak from its top over upper angle of cell to vein 7, angulate there, to lower angle of cell, thence irregularly dilated, little oblique, to tornus; costal patch moderate,



Female genitalia of *Schoenotenes* MEYRICK. Fig. 477: *platyptila* spec. nov. Fig. 478: *trachygrapha* spec. nov. Fig. 479: *prophanes* spec. nov. Fig. 480: *argyrolemma* spec. nov. Fig. 481: *pachydesma* spec. nov. Fig. 482: *cyclicophora* spec. nov. Fig. 483: *aphrodes* spec. nov.

irregularly ovate, with anterior edge slightly projecting; this patch larger and paler than the preceding costal patch, at  $\frac{4}{5}$ , connected posteriorly with slender, curved arms of a thick V-shaped spot; this spot just before middle of termen, with base to vein 2, connected by a narrow marginal streak with tornus; a minute transverse strigula from top of eostal patch to vein 6, another strigula before apex; a blackish-fuseous horizontal streak in tornus. Cilia creamy-white, with an antemedian row of small dark fuscous dots. Hind wing slightly transparent, silky-white, some suffused pale fuscous marbling before apex, cilia silky-white. Sometimes discal markings less distinct, and the three costal spots, the preterminal spot and the plical tuft conspicuously darker than other markings.

Tegumen elongate-triangular, arms dilated above. Uncus with extremely short base, and with a long linear terminal projection, with clavate, bristled top. Hamus strong, narrow, dilated at base, gradually narrowed posteriorly, straight, only top slightly curved laterad. Anus distinct. Soeius and gnathos absent. Transtilla strong, trapezoid, upper edge slightly excavate in middle, connected with anellus which is very strong, elongate-ovate. Valva elongate, eosta with an obliquely transverse ridge towards base, naked and gradually rounded posteriorly, eucullus not separated, a patch of two kinds of bristles: (1) dense, narrow, simple and (2) stout, bifid, directed upward anteriorly, downward posteriorly; saeculus with a strong triangular sclerotized base, towards apex with a huge clavate vertical tooth in middle. Harpe with a deep fold edged above by a row of long bristles. Aedoeagus semicircular, sclerotized. Cornuti, three strong bristles. (Slide No. 657 D, holotype).

Mist Camp, 1800 m, January 11, 1939, January 17—28, 1939. Lower Mist Camp, 1400—1600 m, January 13, 1939. Four specimens.

#### *Schoenotenes petraea* spec. nov.

♀ 21 mm. Head whitish, side-tufts suffused with greyish in middle. Palpus whitish, median segment suffused with greyish in middle, terminal segment fuseous-grey. Thorax whitish, shoulder irrorated with grey. (Abdomen broken). Legs: anterior leg infuscated, pale ringed; median leg whitish-ochreous, posterior leg snow-white. Fore wing with raised scales along veins and with scale-tufts; little dilated, costa gradually curved anteriorly, scarcely curved posteriorly; apex subobtuse, termen straight, little oblique. Whitish, transversely strigulated and retinate with grey, markings grey, edged with blackish. Base of costa suffused with grey, dotted with blackish-grey throughout; basal patch indicated by a blackish transverse mark on eosta beyond base, by an oblique group of blackish scales below this, and by two inwardly oblique greyish patches, irrorated with black on and below fold at  $\frac{1}{4}$ , each with a minute oblique curved greyish strigula above; an elongate-ovate grey spot edged with black scales on eosta before middle, narrowly connected in middle below with



another similar spot, slightly anterior, subtriangular, in disc just above middle; a rather broad vertical blotch of sparse, coarse retination slightly beyond the preceding spot, connecting this spot with dorsum beyond middle; three larger blackish dots along third fourth of costa, a moderate elongate-ovate suffused grey spot below those, an erect, grey, black-edged spot below preceding and beyond cell and another somewhat longer similar spot, slightly oblique, below preceding, to dorsum before tornus; an erect-ovate grey preterminal spot, from vein 3 to 7, edged with blackish scales, and with white vertical streak in centre; posterior  $\frac{1}{4}$  of wing more distinctly retinate with grey. Cilia white, an antemedian row of blackish dots. Hind wing and cilia silky-white.

Mist Camp, 1800 m, January 17, 1939. One specimen. Allied to the preceding.

**Schoenotenes aphrodes** spec. nov. (fig. 483)

*ἀφροδῆς* = foam-like

♀ 19 mm. Head white, a faint transverse band on vertex, and face, greyish. Antenna ochreous-whitish. Palpus long, whitish, suffused with grey except base and tip. Thorax (denuded) with tegula white, shoulder suffused with grey. Abdomen ochreous-whitish. Legs white, tarsi tinged pale ochreous, anterior tibia and tarsus grey, white-ringed. Fore wing with slightly raised scales along veins, tufts moderate; elongate-subtriangular, rather narrow, little dilated, costa gradually curved, less so posteriorly; apex subacute, termen faintly sinuate, moderately oblique. White, with faint transverse fuscous-greyish strigulation, markings black. Extreme base of costa slightly suffused with grey, a crescentic transverse mark beyond base; about nine dots along costa, alternating with small points, fourth and fifth larger, rounded, sixth elongate, transversely-oblique; a transverse row of dots, curved, outwardly convex, slightly oblique, from below first costal dot to above dorsum; a second similar row more oblique, from second costal dot to fold at  $\frac{1}{3}$  of wing, broadly interrupted below costa, and on lower edge of cell, preceded by a white scale-tuft above fold; a third row of dots, slightly sinuate, from below costa at  $\frac{2}{5}$ , converging with preceding row above fold, and interrupted above middle of wing; fourth row less defined, beyond and parallel to third; fifth row almost straight, from beyond middle of closing vein to dorsum just before tornus; a small longitudinal streak on upper angle of cell, cell slightly suffused with greyish-fuscous; zigzag line from sixth costal mark to about vein 8; a conspicuous preterminal Y-shaped mark, with stalk narrow, vertical, from tornus to vein 4; anterior arm of this mark thick, erect-ovate, to vein 6, posterior arm narrower, to termen, to vein 7, interrupted on vein 4; apical fourth of wing dotted and strigulated with dark fuscous between markings, terminal edge with a series of short narrow marginal fuscous-greyish streaks; dorsum with more

distinct transverse mouse-grey strigulation. Cilia white, a faint antemedian row of transverse greyish marks. Hind wing and cilia glossy-white.

Ostium narrow. Limen very broad, strong, a deep median incision almost separating concave ovate lateral plates. Colliculum an invert-U-shaped sclerotized plate. Ductus bursae wide above, narrowed below, moderate. Bursa copulatrix moderate. Signum small, weak, cup-shaped. Eighth segment forming a strongly plicate collar. Ovipositor with lateral upright lobes, and a small dorsal conical body. (Slide No. 666 D).

Moss Forest Camp, five km northeast of Lake Habbema, 2800 m, October 19, 1938. One specimen.

***Schoenotenes irresoluta* spec. nov. (fig. 485)**

♂ 23 mm. Head whitish, touched with pale ochreous. Palpus long, slender, whitish mixed with light fuscous; median segment with an oblique median transverse dark fuscous streak laterally; terminal segment tinged pale ochreous. Thorax whitish, tinged pale brownish, tegula dotted with pale ochreous-brownish. Abdomen white. Legs whitish, infuscated, anterior tibia and tarsus suffused with blackish-fuscous above, pale-ringed. Fore wing smooth, tufts not distinct; rather broad, dilated, elongate-triangular, costa considerably curved anteriorly, less so posteriorly; apex subobtuse, termen slightly sinuate, little oblique. Whitish tinged very pale fuscous, sparsely irrorated with somewhat darker pale fuscous scales, markings blackish-fuscous. Costa with about twelve small dots, and suffused blackish-grey anteriorly, blackish-fuscous posteriorly; base of costa also with a small greyish suffusion; a row of four round black dots along vein 12 from beyond base to  $\frac{1}{3}$  of wing; a few scattered smaller dots in disc beyond base; an irregular spot of fuscous-blackish transverse strigulation on dorsum beyond middle, reaching cell, finely irrorated with light fuscous-greyish, slightly extended along dorsum anteriorly; upper anterior angle of this spot almost connected with an interrupted blackish transverse and moderately oblique line with last dot on vein 12; two costal dots before middle, connected by greyish suffusion which forms a small wedge-shaped transverse mark to cell, and is continued above and beyond cell by a curved series of blackish points to dorsum before tornus, followed on lower half of wing by a second curved series of similar points parallel to preceding; four dots along posterior  $\frac{1}{4}$  of costa, somewhat larger, triangular, suffused; first of these dots continued by a suffused fuscous-greyish line, dotted with blackish, running obliquely to termination of vein 3, outwardly angulate on middle of vein 7, inwardly angulate on vein 5; this line followed by a faint fuscous suffusion, a black dot on each veins 5, 6 and 7 beyond this suffusion; a marginal row of black dots along termen, from tornus to below apex. Cilia whitish-fuscous, an interrupted antemedian darker fuscous shade. Hind wing whitish, a marginal row of faint blackish dots along termen and costa, and some greyish marbling along costa only; cilia pale whitish-fuscous.

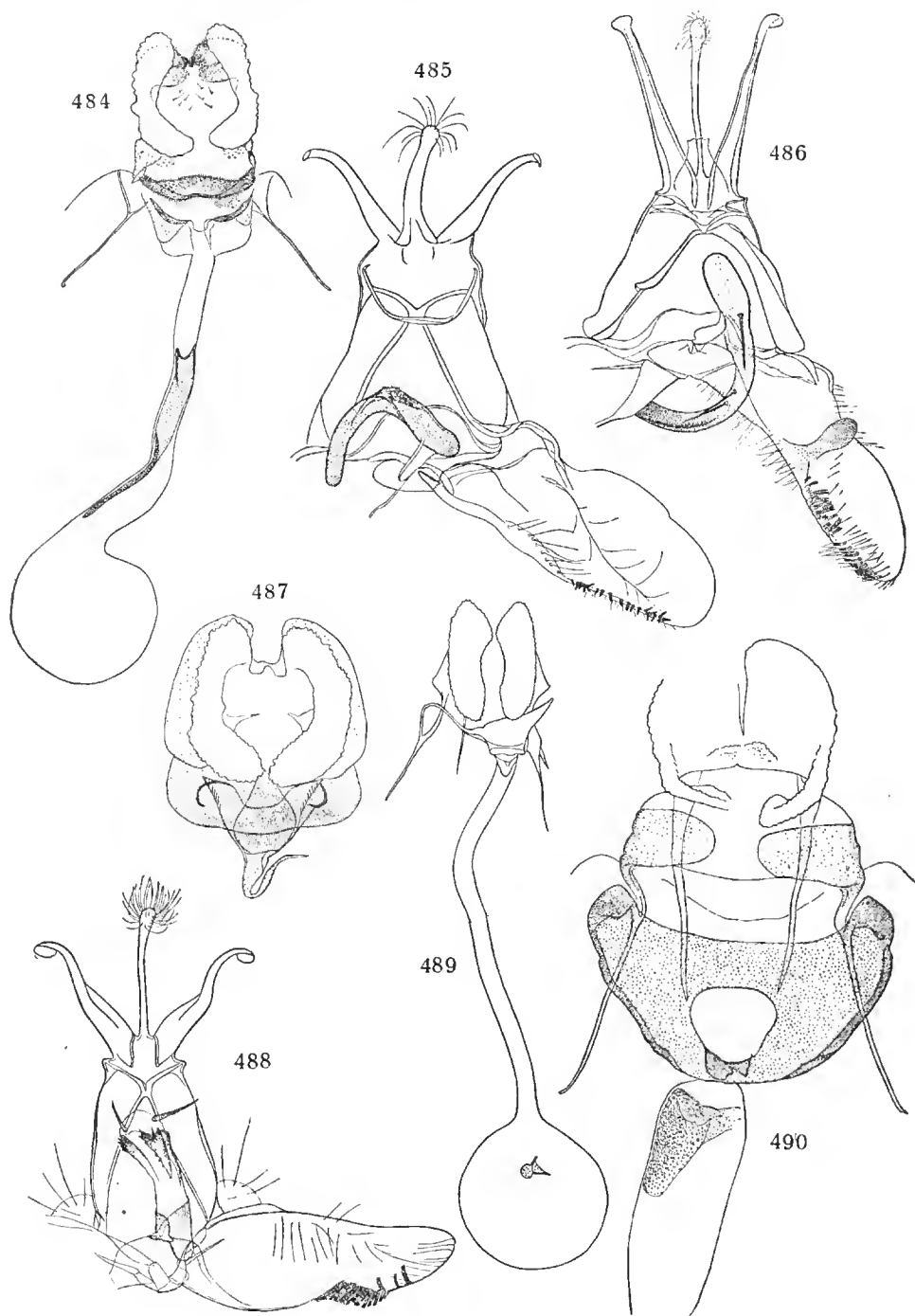
Tegumen elongate, strong. Uncus with broad base, a long, narrow terminal projection with clavate and bristled top. Hamus long, narrowed, slightly curved laterad below top, which is spoon-like. Socius absent. Gnathos, a narrow twice bent rod. Transtilla broad, with a semioval dilatation above. Valva elongate-ovate, costa with a strong basal projection, from which begins a harpe, being a narrow transverse finely bristled ridge; sacculus weak, a row of strong, dentiform bristles posteriorly. Aedocagus short, strongly curved, finely dentate in middle, posterior half flattened dorso-ventrally. (Slide No. 716 D).

Scree Valley Camp, 3800 m, September 16, 1938, One specimen.

**Schoenotenes argyrolemma spec. nov. (figs. 480, 488)**

*ἄργυρος* = silvery, *λέμμα* = bark

♂ 19—21 mm, ♀ 21—23 mm. Head and thorax white, touched with creamy. Palpus rather long, fuscous-grey; median segment above and towards apex, white. Abdomen silky-white. Legs white, anterior tibia and tarsus blackish, white-ringed. Fore wing rather smooth, raised scale-tufts present, first discal small; elongate-subtriangular, costa gradually curved anteriorly, somewhat more so in female, hardly curved posteriorly; apex subacute, termen faintly sinuate, moderately oblique. Glossy-white, markings dull, very pale grey or ochreous-greyish, dark grey and black. Base of costal edge black; a short transverse black mark on costa beyond base; a row of dots from beyond this mark to apex, small, black anteriorly, becoming larger, dark grey posteriorly; a narrow dull pale grey, scarcely perceptible straight transverse fascia from before  $\frac{1}{4}$  of costa to  $\frac{1}{3}$  of dorsum, obliterate in disc, sometimes entirely absent; this fascia preceded by small groups of jet-black scales from below costa to slightly below fold, sometimes obliterate; central fascia indicated by a narrow transverse streak from third costal dot, not reaching cell, by a rounded patch of pale greyish-ochreous suffusion in cell, and by an elongate pale grey suffusion beyond middle of dorsum; these markings irrorated with black scales in disc which form about four irregularly sinuate transverse lines; often obliterate except sparse black scales along lower edge of cell and in fold; a rounded moderate pale grey blotch below middle of costal blotch, connected by a row of irregular spots of grey suffusion with upper angle of cell; slightly inwardly oblique broad band of pale greyish-ochreous suffusion connecting posterior half of cell with grey dorsal above mentioned suffusion; a few scales on middle of lower edge of cell, and a zigzag black line along closing vein, often dissolved in three black points; costal patch triangular, slightly oblique, grey, connecting sixth and seventh costal dots; a spot of ground colour between these dots, grey, mixed below anteriorly with blackish, reaching to vein 7; an elongate vertical pale grey blotch on dorsum before tornus; a moderate rounded jet-black spot on middle of vein 5, often surmounted or connected with a smaller such spot



Genitalia of *Schoenotenes* MEYRICK. Fig. 484: *chrysauges* spec. nov., female. Fig. 485: *irresoluta* spec. nov., male. Fig. 486: *halirrhothia* MEYRICK, male. Fig. 487: *canescens* spec. nov., female. Fig. 488: *argyrolemma* spec. nov., male. Fig. 489: *nanodes* spec. nov., female. Fig. 490: *conioplegma* spec. nov., female.



on vein 6, both edged with greyish suffusion which is continued as a vertical grey blotch to below eighth costal dot; a minute greyish streak before apex; grey marks often very pale ochreous or darker, and interconnected by grey retination extending all over the wing. Cilia white, an antemedian row of grey dots fading towards tornus, sometimes ill-defined or obliterate. Hind wing and eilia silvery-white.

Tegumen elongate, narrow, arms strongly dilated posteriorly. Uncus very short, terminal projection long, linear, clavate and bristled posteriorly. Hamus strong, broad at base, much narrowed posteriorly, sinuate, top eurved laterad, spoon-like: a short triangular lateral projection below base of hamus. Socius absent. Transtilla broad, membranous, bristled (paired — or broken in middle?). Valva elongate-ovate, narrowed; costa with a small ridge towards base, an oblique row of fine bristles in disc; eucullus moderately bristled along edge; sacculus with a strong triangular base, and a short curved patch of bifid bristles terminally, which decrease in length posteriorly. Anellus very strong, short. Aedoeagus stout, little eurved, rather short, beyond middle dilated posteriorly, with orifice strongly sclerotized, with dentate edges and a split ventrally. Cornuti, three strong spines. (Slide No. 658 D, holotype).

Entire seventh segment in female strongly sclerotized, plicate and intricately shaped. Limen very broad, lower edge with a rounded median projection and deep rounded excavations laterally, above which two folds rounded above; a third fold median, invert-cordiform, behind this fold lays the narrow ostium with a high dorsal wall which has a tolerably straight, somewhat serrulate upper edge. Ductus bursae very short, sclerotized. Bursa copulatrix moderate, simple. Ovipositor clavate, a triangular slightly bifid median dorsal lobe, upper lobe short, concave, lower lobe broad, rounded, strongly concave, almost touching other lobe medianly. (Slide No. 659 D, allotype).

Moss Forest Camp, 2800 m, October 13, 1938 (holotype, male), October 9—November 5, 1938 (allotype, female). Other specimens October 9—November 5, 1938. Three males, seven females. Perhaps allied to *S. anthracobathra* MEYRICK, 1938.

***Schoenotenes cyclicophora* spec. nov. (figs. 472, 482)**

$\kappa\acute{\upsilon}\lambda\acute{\iota}\varsigma$  = a cup,  $\varphi\acute{\epsilon}\rho\omega$  = to bear

♂ 20 mm, ♀ 24 mm. Head white, vertex and collar tinged with yellowish-creamy. Antenna with scape white, flagellum pale greyish-ochreous. Palpus with basal and terminal segments white, median segment black, except base below, and apex above. Thorax and abdomen sordid isabel-whitish, anal tuft in male white. Legs white, anterior tibia and tarsus black above, white-ringed, median knee and base of posterior tarsus dark grey. Fore wing with raised scales along terminal veins, tufts present; elongate-subtruncate, rather broad, dilated; costa curved towards extremities, more

so anteriorly, straight in middle; apex subacute, narrower in male; terminally sinuate in male, hardly sinuate in female, moderately oblique. White, tinged isabel, markings jet-black. A moderate patch on base of costa, semiovate in male, triangular in female, reaching beyond upper edge of cell; a small outwardly oblique mark on  $1/4$  of dorsum, minute in male; a small wedge-shaped transverse mark on costa beyond  $1/4$ ; a rather large invert-triangular patch on middle of costa, to upper edge of cell, with top dilated, especially in female; this patch continued along cell posteriorly by a horizontal short streak, patch and streak together giving rise to a slightly oblique calix-shaped mark; an erect-dentiform, somewhat inwardly curved and oblique dot on  $3/4$  of costa, followed by a black point; sparse minute black scales scattered over disc, forming a somewhat denser group on lower edge of cell before middle of wing, a curved interrupted line along closing vein, and a less distinct series of black specks from dorsum before tornus to below costa beyond  $3/4$ ; this irroration, of minute black specks almost entirely obliterate in male; female with following additional markings: a narrow sinuate black line from end of vein 2 to end of vein 9, continuous as far as vein 6, interrupted so as to form three short transverse interneural strigulae above this vein, and marginal black points on veins 5—8. Cilia white, an antemedian row of black points, almost obliterate in male. Hind wing and cilia glossy white, in female apex and terminal edge somewhat transparent isabel-white.

Tegumen short, deeply concave, subconical. Uncus very narrow, being a long projection with bulbate top. Hamus strong, moderately broad, sinuate, top concave, curved laterad. Socius represented by a group of fine bristles at base of hamus. Gnathos small, arms rectangularly bent downward in middle; top, a narrow transverse rod. Transtilla narrow, submembranous. Valva narrowly ovate, costa slightly excavate in middle; cucullus obliquely rounded, top with a patch of strong pointed bristles; harpe an oblique, haired, and sparsely bristled fold; sacculus strong, sinuate, almost 1, ending in a pad with bifid bristles, preceded by a short acute projection. Aedoeagus strong, slender, rectangularly bent beyond middle, top bifid. Anellus long. (Slide No. 682 D, holotype).

Genital segment sclerotized, swollen, almost spheroid. Limen formed by an elongate strong sinuate blade at each side, transversely oblique, ending in an excavate dilatation, which together surround a small ostium, right dilatation immediately continued into a very strong long colliculum. Ductus bursae extremely short. Bursa copulatrix small, spheroid. Ovipositor surrounded by a weak thickened collar; lobes rather narrow. (Slide No. 683 D, allotype).

Top Camp, 2100 m, January 15, 1939 (holotype, male). Moss Forest Camp, five km northeast of Lake Habbema, 2800 m, October 15, 1938 (allotype, female). One male, one female. Very distinct species, allied to *S. octosticta* MEYRICK, 1930.

**Schoenotenes octosticta** MEYRICK, 1930

*Schoenotenes octosticta* MEYRICK, 1930, Exot. Microl., vol. 3, p. 610.

Distribution: British New Guinea: Owingarra.

Iebèlè Camp, 2250 m, November 25—28, 1938. Two females, with fore wing slightly broader, apex more rounded than in male. Hind wing with veins 6 and 7 closely approximated towards base. One specimen exactly answering the original description, another specimen with traces of pale ochreous markings, and with black markings extended: costal dots continued by shadowy faint transverse lines, below upper third of wing becoming suffused pale ochreous striae; discal spot narrow, crescentic, concave above, followed by an oblique series of three small black dots; a point and a minute horizontal streak on closing vein; four preterminal points connected and encircled by pale ochreous suffusion, forming an elongate spindle-shaped transverse patch; very faint sparse pale ochreous retination all over wing, partially obliterate; a faint pale grey suffusion on dorsum below end of fold.

**Schoenotenes operosa** spec. nov. (fig. 491)

♂ 17 mm. Head sordid white. Antenna pale fuscous, mixed with white. Palpus white, median segment with a broad curved subapical transverse band of fuscous-grey suffusion, extended along upper edge of that segment to its base; terminal segment with an interrupted median greyish transverse band. Thorax white mixed with greyish. Abdomen white. Legs white, anterior leg suffused with dark grey above, articulations with white rings. Fore wing roughly scaled along veins which appear raised (tufts apparently rubbed); ovate-truncate, elongate, rather broad; costa considerably curved anteriorly, little so posteriorly; apex obtusely pointed, termen slightly rounded, oblique. White touched with isabel, markings fuscous-grey. Base of costal edge suffused with greyish; about nine costal dots, darker than other markings, along anterior  $\frac{2}{5}$  of costa, more or less alternating with minute transverse strigulae; fifth (submedian) costal dot largest, elongate, upper edge minutely indented; a moderate elongate-rectangular suffused patch in centre of wing, followed by a less defined round patch just beyond cell; these markings connected by irregular, suffused interrupted oblique fasciae with fourth and fifth costal dots, respectively; an irregular rounded spot below seventh costal dot, connected with tornus by a narrow, somewhat undulate, slightly outwards-convex striga; minute transverse interneural strigulae arranged in two almost vertical subterminal series, from ultimate costal dot and from before this, respectively, running to lower third of termen; a minute transverse strigula in apex. Cilia white. Hind wing and cilia glossy white.

Tegumen elongate. Uncus slender, with three long pending bristles below top at each side. Hamus rather long, with dilated top, hammer-

shaped. Socius, a bristly pad over stalk of hamus. Gnathos W-shaped, with dilated and pointed lower angles. Transtilla, a simple curved band. Valva narrowed, with furcate bristles, and with a patch of simple longer bristles upon a thickened pad; sacculus about  $\frac{1}{2}$ , with a strong triangular tooth at base. Aedoeagus rather curved, ending in a strong point, denticulate below this. (Slide No. 1001 D).

Araucaria Camp, 800 m, March 23, 1939. One specimen. According to the genitalia nearest to *S. arachnodes* DIAKONOFF, from the Wissel Lakes. Distinct by discal patches.

***Schoenotenes pachydesma* spec. nov. (figs. 471, 481)**

*παχύς* = thick, *δεσμός* = a band

♂ 16 mm, ♀ 18—19 mm. Head, thorax and abdomen in male whitish-grey, in female whitish tinged pale ochreous; with anal tuft shiny whitish, a golden spot below; in female thorax slightly mixed with grey. Palpus slender, of moderate length, greyish, median segment with whitish apex. Thorax and abdomen white. Legs white, anterior tibia and tarsus suffused with grey, white-ringed. Fore wing with small ridges of raised scales along veins, tufts on fold beyond middle and on transverse vein; elongate-subovate, costa considerably curved anteriorly, less curved posteriorly, straight in middle; apex subacute, narrower in female; termen straight, little oblique in male, faintly sinuate, more oblique in female. Whitish, base of costa suffused with blackish, about nine cloudy dots from base to apex, alternating with minute points; these dots blackish, becoming grey and larger posteriorly; a large transverse band, tolerably vertical, from  $\frac{1}{4}$  of dorsum to below costa, with lower half triangularly dilated; this band fuscous-olive, edged by a few black scales, with a subtriangular slightly projecting blackish patch on middle of its posterior edge, on dorsum light grey, transversely strigulated with darker mouse-grey; other markings pale grey, partially edged with blackish; a small spot below costa before  $\frac{1}{3}$ , connected with dorsum by a straight minute blackish strigula of dark fuscous scales; a series of three blotches from costa before  $\frac{1}{2}$  to middle of dorsum, consisting of a round darker grey patch just below costa not reaching cell, of a larger subquadrate patch in disc below and slightly before the former to below middle of wing, with posterior edge narrowly blackish, continued as a fine strigula to dorsum, and of an elongate, almost vertical blotch on dorsum beyond preceding and not reaching this, with anterior edge mixed with blackish scales; an erect-ovate broad blotch just beyond cell, from vein 5 to 8, edged anteriorly with blackish scales, and preceded by a large white tuft of raised scales on transverse vein; posterior edge of this patch transversely strigulated with fuscous; these strigulae forming a narrow vertical streak below, which connects patch with a small, erect-ovate patch on dorsum before tornus, reaching above to vein 4; costal patch darker grey, represented by a moderate semi-



circular streak from seventh to eighth costal dot, wider and almost vertical anteriorly, reaching to below vein 9; two interconnected erect pale fuscous spots before termen from vein 3 to 8, upper spot smaller, slightly oblique, finely anastomosing with eighth costal dot, lower spot vertical; a minute pale fuscous transverse streak in apex. Cilia white, a faint median row of fuscous points. Hind wing with 3 and 4 connate in male, very closely approximated in female; pellucid, shining white; cilia white.

Tegumen narrowly erect-triangular. Uncus short, terminal projection slender, slightly sinuate, not dilated, with 4—5 rather weak bristles; two short blunt knobs at base of projection. Hamus sickle-shaped, slender, curved upward, upper edge with a short angulate projection halfway towards hook; this hook with a short median furcation. Socius absent. Gnathos, a rather broad W-shaped band, with outer edge short-dentate. Transtilla narrow, straight, membraneous. Valva elongate, costa with a median sclerotized ridge; cucullus slender, slightly curved upward, clavate, long-bristled, with a patch of modified short bristles below anteriorly; sacculus with a strong dentiform basal projection ending in a sharp point, a short fold apically (= harpe) densely covered with strong simple bristles. Aedoeagus curved, strongly sclerotized posteriorly, top flattened dorso-ventrally, truncate and serrulate. Anellus short. Juxta strong. (Slide No. 655 D, holotype).

Ostium narrow, tubular, dorsally with a membraneous transverse fold, with scobinate surface. Seventh segment sclerotized; limen intricate: upper rim with three projections, median longest, haired; lateral parts strong; lower rim plicate, folds dentate, laterally and dorsally continued by a broad smooth fold, with two arms ventrally of this, each ending in four large teeth. Ductus bursae short, sclerotized, rather narrow, bursa moderate, simple. (Slide No. 656 D, allotype).

Rattan Camp, 1200 m, February 19, 1939 (holotype, male). Mist Camp, 1800 m, January 8—17, 1939 (allotype, paratype). One male, two females. Nearest to *S. subcroceata* MEYRICK, 1938.

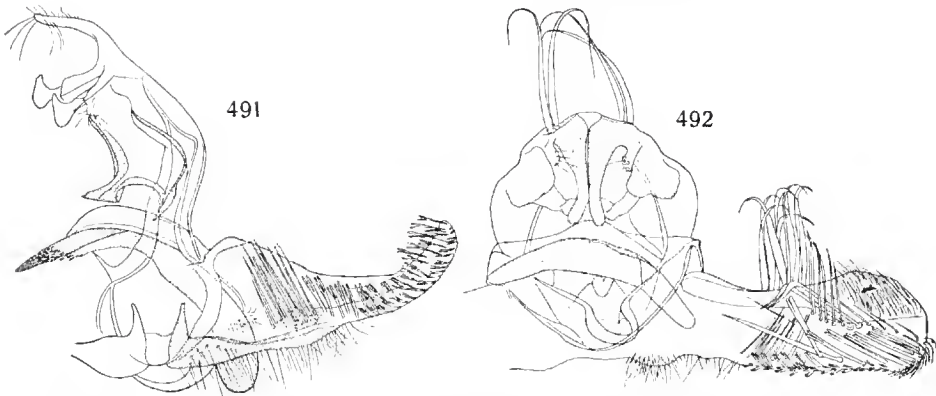
***Schoenotenes croceosema* spec. nov.**

*κρόκεος* = saffron, *σημα* = a mark

*Schoenotenes subcroceata* DIAKONOFF (*nec* MEYRICK), 1944, Treubia, hors série, pp. 51—52, fig. 13 (deser., gen. ♂).

Distribution: Netherlands Central West New Guinea: Wissel Lakes, 1800 m.

Mr. BRADLEY of the British Museum kindly sent us a photograph of the genitalia of the type specimen (male) of *Schoenotenes subcroceata* MEYRICK, 1938; the study of this photograph proved that the species described by us in the above cited paper from the Wissel Lakes and recorded as *subcroceata*, belongs to a distinct species for which we propose the above name.



Genitalia of *Schoenotenes*. Fig. 491: *operosa* spec. nov., male. Fig. 492: *canescens* spec. nov., male.

Iebèlè Camp, 2250 m, November 19, 1938. Mist Camp, 1800 m, January 17, 1939. Sigi Camp, 1500 m, February 17, 1939. Four males, one female. Allied to *S. subcroceata* but brighter and more distinctly marked, with black discal mark less conspicuous. The holotype, male, is from Arabu Camp, 1800 m, Wissel Lakes, October 8, 1938, genit. slide No. 293 D. (H. BOSCHMA).

***Schoenotenes coniopegma* spec. nov. (fig. 490)**

κόνης = dust, πλέγμα = a net

♀ 23—24 mm. Head and thorax white, mixed with pale ochreous-greyish. Palpus long, white, median segment suffused with dark fuscous-grey except towards apex above; terminal segment with a greyish median band. Abdomen pale ochreous-greyish. Legs white, anterior and median tibia and tarsus banded and suffused with grey. Fore wing broad, dilated, elongate-subovate; costa gently curved throughout, less so in middle; apex rounded, termen rounded, almost vertical. White, with strong ridges of raised tufts along veins, costa dotted throughout with blackish-fuscous, other markings dark greyish-fuscous; basal patch indicated by a small transverse suffusion beyond  $\frac{1}{6}$ , from below costa to above fold, and by a few dots before this; central fascia indicated by an irregular moderate streak of greyish-fuscous retination from costa before middle to dorsum before tornus, curved, with a rounded dilatation in middle of disc, with lower half edged posteriorly with dark greyish-fuscous, ending on dorsum by a small vertical dark patch; an erect-ovate patch of the same retination on middle of dorsum reaching to middle of disc, almost touching middle of preceding; costal patch formed by dark blackish-fuscous retination on  $\frac{4}{5}$  of costa, almost invert-T-shaped, sometimes dissolved in a small quadrate dot on costa and two rounded dots below costa; a narrow regular submarginal grey streak, from costa before apex to end of vein 2, furcate anteriorly there, furca running almost vertical to vein 6; fine greyish points scattered between markings. Cilia white with an antemedian

row of minute fuscous points. Hind wing with veins 3 and 4 connate, semipelluculent, white. Cilia white.

Ostium wide. Limen very broad, simple, gradually narrowed laterally. Colliculum, a moderate ring. Ductus bursae broad, moderately long, a sclerotized scobinate plate above. Bursa copulatrix moderate, spheroid, with a finely and densely scobinate wall. Eighth segment sclerotized, ventral lobes rounded. Ovipositor with discal lobe large, semioval, proximal lobe narrow, curved. (Slide No. 664 D, holotype).

Sigi Camp, 1500 m, February 23, 1939 (holotype). Araucaria Camp, 800 m, March 23, 1939. Two specimens. Closely allied to *S. paraptera* MEYRICK, 1910, from Malaya and Sumatra, differing by shorter, broader and darker palpus, by more rounded termen, by denser and darker markings in fore wing, and by white hind wing (in *paraptera* sordid ochreous-whitish; veins 3 and 4 closely approximated).

***Schoenotenes canescens* spec. nov. (figs. 487, 492)**

♂ 18 mm, ♀ 20 mm. Head and thorax whitish, slightly mixed with greyish. Palpus moderately long, median segment with basal half of upper edge concave, greyish; basal segment and edges of median whitish. Abdomen white. Maxillary palpus minute, but distinct. Legs whitish, anterior tibia and tarsus infuscated, pale-ringed. Fore wing elongate-subovate, costa curved anteriorly, almost straight in middle, slightly curved before apex, apex subobtusate, termen faintly rounded, little oblique. Whitish, faintly suffused with very pale fuscous anteriorly, transversely strigulated with short greyish-fuscous streaks, markings blackish-fuscous. Nine dots along costa, first dot forming a short transverse streak to vein 12, slightly constricted in middle, a suffused small dot below this in fold; a more distinct transverse somewhat oblique row of blackish-fuscous dots in disc at  $\frac{1}{5}$ ; fifth costal dot larger, rounded, a darker irroration forming rounded patch below this dot, and an outwardly oblique streak from upper edge of cell before middle of wing to  $\frac{3}{5}$  of dorsum, regularly dilated below; a spot of blackish irroration in cell above parting vein, and one just above fold; more continuous transverse sinuate lines of greyish strigulation: one vertical, from lower part of preceding fascia to above cell, and a pair of lines from termen to costal patch; this patch small, represented by two dots on  $\frac{4}{5}$  of costa and a dark fuscous spot connecting these dots below costa; a V-shaped preterminal mark, with anterior arm thickened, rounded above, posterior arm curved, almost reaching last costal patch. Cilia white. Hind wing and cilia glossy-white.

Male genitalia considerably specialised. Tegumen robust, spheroid, shoulder with two large blade-like bristles. Uncus bipartite: two rather slender obtuse rods with dilated base, bent downward. Socius, a bristly pad. Gnathos short, unpaired, with middle thickened into a pad. Transtilla moderate, upper edge prominent in middle. Valva rather narrow, top

slightly dilated, costa with a patch of broad, blade-like bristles with fine curved points; two peculiar angulate bristles in disc; cucullus finely haired; sacculus with simple, and with furcate broad bristles. Anellus moderate. Aedoeagus curved. Cornuti absent. (Slide No. 1112 D, holotype).

Eighth segment, a sclerotized ring, with narrowed ventral part representing the limen, upper edge of which with an ovate lobe at each side. Ostium, a strongly sclerotized funnel, connected with a conical colliculum, dorsal wall of ostium produced in a pointed, rising projection. Ductus bursae rather short. Bursa copulatrix simple. Ovipositor lobe narrow, reniform, with a large elongate dorsal pad. (Slide No. 700 D, allotype).

Mist Camp, 1800 m, January 8, 1939 (holotype, male), January 19, 1939 (allotype, female). One male, one female. The male genitalia are greatly puzzling, strongly specialized, and not like those in any other species of *Schoenotenes* known to us. All other characters, however, show no deviations whatever from the common type of this genus.

***Xenotenes* gen. nov. (fig. 493)**

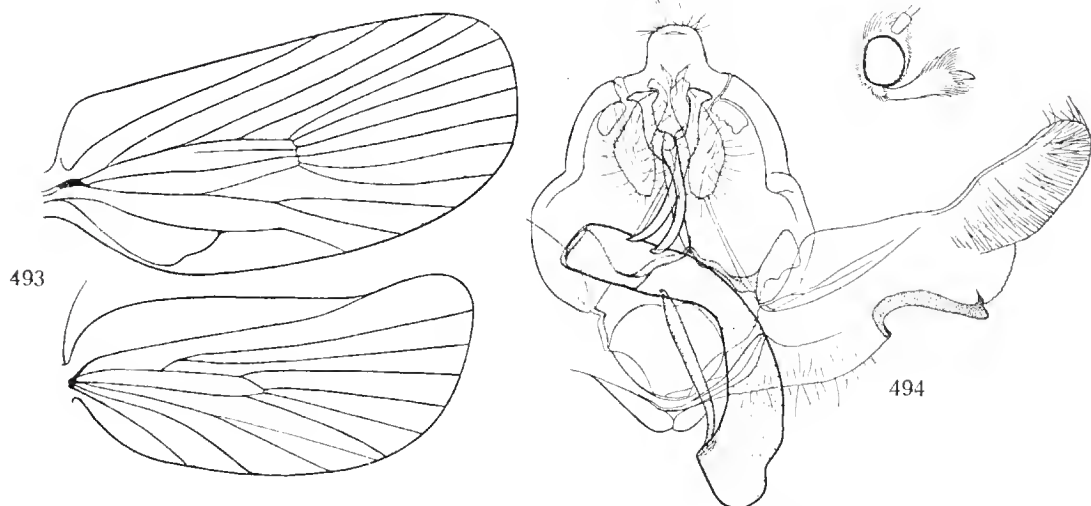
*ξένος* = strange, *τείνω* = to tighten

Head with appressed scales. Ocellus absent. Proboscis vestigial. Antenna  $1\frac{1}{2}$ , minutely ciliated in male. Labial palpus moderately long, subascending, median segment densely clothed with long appressed scales, which are strongly expanded and projecting towards apex, shorter above, long beneath, terminal segment short, almost concealed, subacute. Maxillary palpus obliterate. (Thorax denuded). Fore wing with raised scales along veins, ovate, base constricted, costa angularly projecting, with a brush of modified scales below, apex broadly rounded. Veins fringed with scales below, cell narrow, slightly over  $1\frac{1}{2}$ , gradually narrowed posteriorly, with a weak upper parting vein to below 6, and with a strong lower parting vein from beyond base of lower edge of cell to above base of vein 5; 1b furcate along basal  $\frac{3}{5}$ , both arms strong, upper little sinuate, lower running obliquely from base of wing to edge of dorsum, strongly bent there, thence to furcation, with a comb of scales above; 2 from  $1\frac{1}{2}$ , furcate along posterior  $\frac{2}{3}$ , 3 and 4 closely approximated at base, from angle, 5 and 6 remote, parallel, 7 separate, from angle, to termen, little approximated to 8, 8 apparently to apex (which is indefinite), 9 from  $\frac{3}{4}$ , 10 from  $1\frac{1}{2}$ , 11 from towards base of upper edge of cell. Hind wing without cubital pecten, costa concave at  $\frac{2}{3}$ ; apex bluntly rounded; under 1, cilia  $\frac{1}{5}$ , cell very narrow, closing vein horizontal above: 1c furcate, 2 from before angle, 3 remote, from angle, 4 approximated, 5 remote, curved towards base, apparently from upper angle of cell, 6 and 7 very long, short-stalked, stalk from halfway between base and vein 5, 7 to below apex, 8 strong, to  $\frac{3}{4}$  of costa.

Genotype *Xenotenes micrastra* spec. nov., male.

The situation of vein 1b in the fore wing, as well as the furcate veins 2 in fore wing, and 1c in hind wing are unique.





*Xenotenes microstra* gen. nov., spec. nov., male. Fig. 493: neuration. Fig. 494: head and genitalia.

***Xenotenes microstra* spec. nov. (figs. 493, 494)**

$\mu\alpha\chi\rho\acute{o}\varsigma$  = small,  $\acute{\alpha}\sigma\tau\acute{\eta}\rho$  = a star

♂ 19.5 mm. Head, thorax and abdomen sordid whitish touched with pale brownish, slightly mixed with greyish-fuscous (much denuded). Palpus pale brownish-fuscous, cilia along lower edge, and at apex below, white. Legs pale fuscous, anterior darker (denuded). Fore wing roughly scaled above, with base strongly constricted and narrow, costa abruptly dilated beyond base, rectangularly prominent, straight posteriorly, apex, termen and tornus strongly rounded, termen in middle straight, vertical, vein 8 apparently to apex, veins distinctly raised. Pale ochreous, irrorated with pale chestnut-brown, partially slightly strewn with blackish-brown, scattered with shining leaden-metallic scales. Basal half (denuded) with an indication of dark fuscous or grey dotting along  $\frac{2}{3}$  of costa; a wedge-shaped patch of darker chestnut-brown suffusion extending below posterior fourth of costa, running parallel to edge of wing, gradually narrowed towards tornus, strongly concave anteriorly, reaching edge of wing along veins; a series of rounded whitish submarginal interneural spots; upper third of preceding patch, and an elongate irregular streak above and beyond posterior half of cell with a short vertical projection from lower edge of cell towards dorsum, formed by blackish-brown irroration; posterior half of dorsum irrorated with brownish; leaden-metallic scales forming the following more dense groups: in disc posteriorly, along and above posterior third of dorsum, and in a curved series parallel to edge of wing along middle of submarginal brown patch. Cilia dull pale brownish, basal half darker chestnut-brownish. Hind wing pale whitish-brown, suffused

with light brownish posteriorly; veins slightly irrorated with blackish-fuscos; an elongate spot of blackish-fuscos irroration on costa before apex, mixed with glossy leaden-grey scales which extend along edge of wing to below apex, edge of wing narrowly dark brown. Cilia pale chestnut-brown, basal half tawny; on costa before apex cilia longer, forming a moderate tuft, densely irrorated with blackish-fuscos, before this tuft pale ochreous with a small patch of blackish-fuscos irroration before middle of costa.

Tegumen broad, little narrowed, rather short. Uncus small, ending in a short knob, weakly bristled terminally. Socius long, spindle-shaped, pending. Gnathos unpaired, moderately long, pending, bases strong, posterior half trifurcate. Transtilla narrow, strong, invert-V-shaped, slightly dilated laterally, angulate in middle above. Valva narrow, costa strong, cucullus elongate, short-bristled, sacculus over  $\frac{1}{2}$ , excavated towards top, excavation with a strong rim ending in a blunt point. Juxta circular. Aedoeagus moderate, curved, gradually slightly narrowed towards middle, anellus very long, no cornuti. (Slide No. 662 D, holotype).

Araucaria Camp, 800 m, March 22 (holotype), March 23, 1939. Two specimens, in somewhat damaged condition. A peculiar insect with aberrant venation.

### CHLIDANOTIDAE

This little known, small family, although of doubtless tortricoid relationship, up till now seemed to occupy an isolated position. It is very probable, however, that a study of the genitalia of its species, which are hardly known at present, will reveal interesting facts. The genus *Picroxena* MEYRICK, e.g., appears to be correlated with certain forms of *Schoenotenes*, as its male genitalia are in the possession of the hami.

We regard the present family as being immediately related to the Schocnotenidae, and possibly a development of them, judging from the stalked veins 8 and 9 in the fore wing which is a character of considerable specialisation.

Although the following genus gives no doubt as to its place in the present family, it possesses several characters new to the group, viz., the origin of the vein 2 in the fore wing and the presence of a short basal pecten on the lower edge of cell in the hind wing.

The following species is a second record of the family from the Papuan region.

#### Key to the Papuan genera of the Chlidanotidae

1. Fore wing with vein 4 absent. . . . . *Trymalitis* MEYRICK
- Fore wing with vein 4 present . . . . . *Demeijerella* gen. nov.

#### *Demeijerella* gen. nov. (fig. 495)

Head with dense, roughly appressed scales, side tufts raised. Ocellus posterior. Proboscis vestigial. Antenna shortly pubescent in male?

(imperfect). Labial palpus moderately long, angularly bent between basal and median segments, ascending; median segment rather slender, cylindrical, dilated towards apex, clothed with closely appressed scales roughish at apex, terminal segment short, slender, obtuse. Maxillary palpus not perceptible (concealed?). Thorax without crest. Fore wing with vein 1b short-furcate, 2 from before angle, 3 and 4 closely approximated, from angle, 5—7 tolerably equidistant, parallel, 7 to termen, almost connate with 9, 8 out of 9, short, 11 from beyond middle. Hind wing 1, broadly semiovate, with a pencil-shaped moderate pecten of hairs towards base of lower edge of cell, cilia  $\frac{1}{6}$ ; 2 from  $\frac{3}{5}$ , 3 and 4 connate from angle, 5 approximated at base, 6 and 7 closely approximated towards base, 8 parallel and close to upper edge of cell.

Genotype *Demeijerella xanthorhina* spec. nov., male.

An interesting novel form perhaps correlated with *Archimaga* MEYRICK, 1906.

Dedicated to the memory of the well-known Dutch Dipterologist and Professor of Entomology of Amsterdam, the late Prof. Dr. J. C. H. DE MEIJERE.

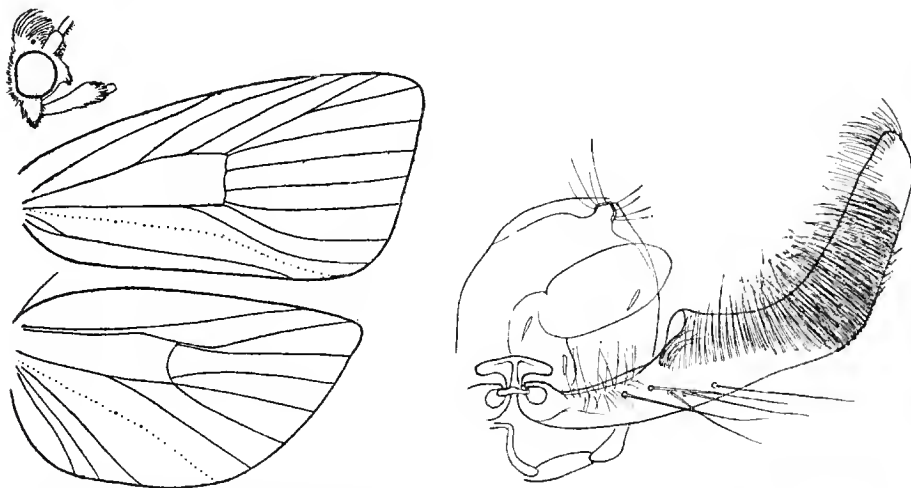


Fig. 495: *Demeijerella xanthorhina* gen. nov., spec. nov., male, head and wing venuration. Fig. 496: *Demeijerella xanthorhina* spec. nov., male genitalia.

***Demeijerella xanthorhina* spec. nov. (figs. 495, 496)**

$\xi\alpha\theta\acute{o}\varsigma$  = yellow,  $\acute{\epsilon}\nu$  = nose

♂ 17 mm. Head pale yellow. Palpus light yellow, basal half densely mixed and suffused with dark fuscous. Antenna ochreous mixed with fuscous (damaged). Thorax greyish-fuscous, tegula somewhat paler. Abdomen pale grey, anal tuft pale ochreous, venter whitish. Legs pale ochreous, anterior tibia and tarsus irrorated with dark fuscous above. Fore wing without costal fold, broad, elongate-triangular, dilated; costa

moderately curved throughout, more curved before apex; apex little obtuse, termen scarcely sinuate, little oblique. Pale ochreous-yellow, markings formed by pale fuscous fine transverse strigulation, narrowly edged with dark fuscous interrupted lines. Basal patch rather large, suffused with darker fuscous along costa, edge vertical above, angularly projecting somewhat above middle, slightly inwards-oblique below this; central fascia represented by a vertical broad blotch extending from a little beyond  $\frac{1}{3}$  to slightly before  $\frac{2}{3}$  of costa, reaching from costa to fold, with a narrow oblique projection running above fold to tornus, gradually narrowed posteriorly; anterior edge of blotch bluntly angulate at  $\frac{1}{3}$ , posterior gradually convex; a vertical moderately broad transverse fascia from costa before apex, irregularly interrupted below middle by rounded spots of ground colour, anteriorly edged with dark fuscous short vertical lines, posteriorly connected by sparse fuscous transverse strigulation with pale fuscous suffusion along termen. Cilia (damaged) fuscous with a basal row of pale ochreous subtriangular spots; cilia in tornus pale yellow. Hind wing and cilia pale ochreous-brownish, glossy.

Tegumen rounded, broad, top indent, bristled. Uncus absent. Socius large, porrect. Gnathos absent. Transtilla absent. Valva narrow, bent, bristled, sacculus with a series of long bristles. Saccus small. Anellus strong. Aedoeagus curved, robust, little sclerotized. Cornuti (broken), short spines. (Slide No. 472 D).

Rattan Camp, 1200 m, March 2, 1939. One specimen.

## CARPOSINIDAE

This family forms a natural and very distinct group, and stands isolated. In consequence of the last mentioned fact it has been subject to frequent rearrangements in the system, and was moved back and forth between the groups "Tortricina" and "Tineina". It seems advisable for the time being to let it keep an intermediate position between these two groups.

MEYRICK has pointed out (1922) that the family must be of considerable antiquity and in a stage of decline. Many forms being extinct, it is difficult to ascertain the true affinity of the Carposinidae. It is possible, however, that new forms belonging to this family will be found though, to prove that it might form a connection between the two above mentioned groups of families. The existence of the family Carposinidae, *ipso facto*, makes an absolute separation of a superfamily "Tortricoidea" from "Tineoidea" problematic. That such a separation is artificial has recently been stipulated by the late A. JEFFERIS TURNER, shortly before his death (*Proc. Linn. Soc. N.S. Wales*, vol. 71, p. 303, 1947), and also by Dr. A. J. T. JANSE (*Moths of S. Africa*, vol. 1, pp. 60—61, 1936).

The neuration of the hind wing in Carposinidae is typical by constant reduction of one of the M-branches, either  $M_3$  or  $M_2$ . It is not easy to ascertain which of these veins is lacking. MEYRICK, who was the first to



define the family, as far back as 1881, regarded the absent vein as vein 5 ( $M_2$ ), and maintained this view in his "Revision of the Australian Tortricina" in 1910. But in 1922, in his study of this family in the *Genera Insectorum* he indicated the permanently lacking vein as vein 4 ( $M_3$ ), without giving an explanation as to what caused this change of opinion, and stated that veins 3 and 5 can be separate, approximated or stalked. Perhaps the termination of the vein which follows upon vein 3 in the hind wing, high up on the termen, brought him to this conclusion. When describing the genus *Commatarcha* in 1935 he stated, on the contrary, that veins 3 and 4 in hind wing are stalked and that it is again vein 5 which is absent in that genus.

We are inclined to share the original opinion of MEYRICK, that the hind wing in this family permanently lacks vein 5, not 4, on the ground of the consideration that the remaining veins are often stalked and that these must therefore be 3 and 4, not 3 and 5, as the occurrence of 3 and 4 originating from a common stalk is very common in Microlepidoptera.

The following vein in the hind wing of Carposinidae which is apt to reduction, is vein 6 ( $M_1$ ). The fact that the remaining, not reduced, vein invariably terminates in the apex of the hind wing, confirms the surmise that this must be vein 7 (Rs), even when this vein originates below the upper angle of cell, and that the lacking vein is vein 6 indeed.

The infrequent occurrence of a developed vein 6 in the hind wing must be regarded as an archaic character, as was put forward by MEYRICK. However, this character is not absolutely reliable, as in the extensive genus *Meridarchis* ZELLER, 1867, this vein occurs in different stages of development: from fully developed to entirely obliterate, as is set forth below under remarks on this genus. Obviously the old genus *Meridarchis* reflects in the development of its species the course of the development of the genera of the entire family Carposinidae, in the same way as does *Schoenotenes* in the family Schoenotenidae.

The family represents a very natural group, showing a great uniformity of facies. About three common patterns of markings prevail throughout the species, often independently of the genus to which these belong: (1) a large median costal trapezoid spot and a well-defined basal patch; (2) some six discal dots with a small dot on base of costa and one above dorsum beyond base; (3) evenly suffused wing with a transverse, light comma-shaped mark on closing vein. The tenacity of quite different species to one of these three patterns is often confusing; thus a *Carposina* species as well as a *Meridarchis* can bear the first pattern of markings mentioned; a *Meridarchis*, as well as a *Heterogymna*, the second; and a *Heterogymna* (e.g. *H. xenochroma* spec. nov.), as well as a *Bondia*, the third pattern, etc.

The male genitalia of the New Zealand *Carposina* species have been described and figured by PHILPOTT (*Trans. N. Zeal. Inst.*, vol. 59, pp. 476—477, figs. 1—11, 1929). His figures clearly show the type of the

family, and we can add no new general points to his descriptions, at least as far as the present Papuan material is concerned.

The valva often possesses a small discal projection which with PHILPOTT we indicate with the name of ampulla. A second, often long digitoid projection can sometimes be found in the middle of the base of the valva. The anellus may be equipped with long erect projections and is then called furca. The vitta (PHILPOTT), a peculiar terminal filament of the aedoeagus, is in our material invariably missing; it is either altogether absent or possibly broken. The cornuti may be considerably developed, as e.g. in *Anomoeosis phanerostigma* spec. nov.

As to the female genitalia, these are of a peculiar development and mostly well-differentiated. Ovipositor moderately long, erectile, telescoping. Ostium, a broad fold. Limen, often with one or three erect pointed projections and sometimes with two more large erect processes ventrally from these. Ductus bursae is strongly swollen along its proximal half and forms a large sack with retinate or finely papillate surface. Bursa copulatrix is large, elongate or even tubular. Signa, two, each with a flattened or concave proximal plate, bearing two slender horns with a finely dentate inner edge and a curved acute point.

As PHILPOTT rightly states, this type of the genitalia of the New Zealand Carposinidae has nothing in common with the genitalia of the Tortricoid families. Also in this respect the present family makes the impression of standing quite isolated, as is said above. However, our present knowledge of the genital characters of Carposinidae is too fragmentary to allow of any certain conclusions in that respect. It is possible that not the prevailing type of the genitalia as described above is the type which will be useful for phylogenetic hypotheses, but that one will have to look in the direction of deviating — perhaps more recent — forms. The male genitalia of several Carposinidae from Java and Sumatra, recently described, deviate considerably from that "archaic" type and are, therefore, interesting; some remind one of a certain type frequent in the Eucosmidae (*Metacosmesis barbaroglypha* DIAKONOFF, *Treubia*, vol. 20, p. 49, fig. 6, 1949); others are decidedly of a tortricid type (*Mesodica infuscatata* DIAKONOFF, *ibidem*, p. 44, fig. 7).

The country of origin of the present family appears to be South East Asia, which is supported by the distribution of the "archaic" forms i.e. those in possession of a developed vein 6 in the hind wing. One genus with this character is known from Australia (*Sosineura*), one from Japan (*Commataarcha*), one from Java (*Mesodica*), one from Java and Ceylon (*Metacosmesis*), and three from New Guinea. These last mentioned genera, which are described below, viz., *Blipta*, *Xyloides*, and *Hystrichomorpha*, certainly possess archaic features and facies; *Hystrichomorpha* even forms in some respects a connection with the family Copromorphidae. *Meridarchis* which is often also in possession of a developed vein 6 in the hind wing, as is said above, is rather wide-spread and occurs throughout India,

Ceylon, Java and New Guinea to Australia, with a straggler in Congo, but seems to originate from India.

Key to the known genera of the Carposinidae<sup>1)</sup>

1. Fore wing with vein 2 from  $\frac{3}{4}$  of cell, straight . . . . . (*Tesuquea* KLOTS)  
Fore wing with vein 2 from far beyond  $\frac{3}{4}$  of cell, curved . . . . . 2
2. Fore wing with vein 9 absent . . . . . (*Metrogenes* MEYRICK)  
Fore wing with vein 9 present . . . . . 3
3. Fore wing with veins 8 and 9 stalked, at least in male (sometimes connate in female) . . . . . 4  
Fore wing with veins 8 and 9 separate . . . . . 8
4. Hind wing with cell extremely short ( $\frac{1}{3}$  of wing); male genitalia of deviating type . . . . . (*Archostola* DIAKONOFF)  
Hind wing with cell normal; male genitalia of the normal Carposinid type . . . . . 5
5. Palpus in female extremely long, with terminal segment moderate . . . . .  
. . . . . *Camacostoma* gen. nov.  
Palpus in female not extremely long . . . . . 6
6. Fore wing with veins 10 and 11 closely approximated, 11 from  $\frac{3}{4}$ — $\frac{4}{5}$  of cell . . . . . (*Metacosmesis* DIAKONOFF)  
Fore wing with veins 10 and 11 not closely approximated, 11 from  $\frac{1}{2}$ — $\frac{1}{3}$  of cell . . . . . 7
7. Palpus ascending, smooth, slender . . . . . (*Mesodiea* DIAKONOFF)  
Palpus porrect, dilated by more or less projecting scales *Meridarchis* ZELLER
8. Hind wing with vein 6 developed . . . . . 9  
Hind wing with vein 6 reduced to a fold or absent . . . . . 13
9. Hind wing with veins 3 and 4 stalked . . . . . 10  
Hind wing with veins 3 and 4 separate . . . . . 11
10. Palpus in female moderate, slightly curved, subascending, with appressed scales, terminal segment under 1, pointed; hind wing with vein 2 from  $\frac{3}{4}$  of lower edge of cell . . . . . (*Commataarcha* MEYRICK)  
Palpus in female rather long, porrect, with appressed scales, expanded above towards apex, terminal segment very short, exposed; hind wing with vein 2 from towards angle of cell; male with secondary sexual characters in both fore and hind wing . . . . . (*Sosineura* MEYRICK)
11. Palpus with median and terminal segments porrect, median segment strongly ovately dilated towards apex by rough scales above and beneath, terminal segment stout, clavate, about  $\frac{1}{3}$ ; fore wing with very large tufts . . . . .  
. . . . . *Hystrichomorpha* gen. nov.  
Palpus ascending or subascending, terminal segment strongly ascending; fore wing normally tufted . . . . . 12
12. Palpus moderately long, subascending median segment little dilated, tapering at apex, terminal segment obliquely ascending,  $\frac{1}{2}$ , thickened, somewhat clavate, subobtusate; fore wing with vein 11 from  $\frac{3}{5}$ ; hind wing with cell elongate, ovate posteriorly, 3 from angle, remote from 4 . . . . . *Blipta* gen. nov.  
Palpus moderate, ascending, median segment dilated, terminal segment vertically rising, over  $\frac{1}{2}$ , moderately thickened, acute; fore wing with 11 from beyond  $\frac{2}{3}$ ; hind wing with cell outwards obliquely truncate, 3 from well before angle, 4 from angle . . . . . *Xyloides* gen. nov.
13. Fore wing with veins 7 and 8 stalked . . . . . 14  
Fore wing with veins 7 and 8 separate . . . . . 15

<sup>1)</sup> Genera which do not occur in the Papuan region are placed in brackets.

14. Fore wing with veins 3 and 4 stalked from angle, 5 separate; hind wing with cubital pecten . . . . . (*Trepsitypa* MEYRICK)  
Fore wing with veins 4 and 5 connate, hind wing without cubital pecten . . . . . (*Picrorrhyncha* MEYRICK)
15. Median segment of palpus in male with long, curled hairs above, in female cylindrical, with a scale-projection above near base. (*Coscinoptycha* MEYRICK)  
Palpus not thus . . . . . 16
16. Hind wing with cell extremely short: under  $\frac{1}{4}$ , veins very long, apparently diverging from base of wing . . . . . *Spartoneura* gen. nov.  
Hind wing with cell normal . . . . . 17
17. Palpus in male subascending or ascending, in female subascending or porrect 18  
Palpus in male and female porrect . . . . . 22
18. Palpus with terminal segment moderate or long . . . . . 19  
Palpus with terminal segment very short . . . . . 20
19. Palpus with terminal segment longer than median, cylindrical; hind wing with veins 3 and 4 connate . . . . . (*Delarchis* MEYRICK)  
Palpus with terminal segment moderate, slender, obtuse (*Bondia* NEWMAN)
20. Hind wing with veins 3 and 4 connate . . . . . (*Epicipistis* TURNER)  
Hind wing with veins 3 and 4 stalked . . . . . 21
21. Hind wing in male without, in female with cubital pecten . . . . .  
Hind wing in female without cubital pecten (male unknown) . . . . .  
Hind wing in female without cubital pecten . . . . . *Actenoptila* gen. nov.
22. Hind wing in male with vein 3 absent, in female with veins 3 and 4 widely remote . . . . . *Anomoeosis* gen. nov.  
Hind wing with veins 3 and 4 in both sexes stalked . . . . . 23
23. Hind wing with cubital pecten . . . . . *Carposina* HERRICH-SCHEFFER  
Hind wing without cubital pecten . . . . . (*Paramorpha* MEYRICK)

### Meridarchis ZELLER, 1867

*Meridarchis* ZELLER, 1867, Stett. Ent. Zeit., vol. 28, p. 407; genotype: *M. trapeziella* ZELLER, 1867.

*Autogriphus* WALSINGHAM, 1897, Trans. Entom. Soc. Lond., vol. 1897, p. 59; genotype: *A. lutea* WALSINGHAM, 1897.

*Pexinola* HAMPSON, 1900, Cat. Lep. Phal., vol. 2, p. 79; genotype: *P. longirostris* HAMPSON, 1900.

*Propedesis* WALSINGHAM, 1900, Ann. Mag. Nat. Hist., ser. 7, vol. 6, p. 122; genotype: *P. excisa* WALSINGHAM, 1900.

*Tribonica* MEYRICK, 1905, Journ. Bomb. Nat. Hist. Soc., vol. 16, p. 589; genotype: *T. eremitis* MEYRICK, 1905.

The characteristic feature of the veins 8 and 9 in the fore wing being stalked makes this extensive genus easily recognisable; the veins 3 and 4 may be stalked or separate. The hind wing shows also variable venation, veins 3 and 4 being stalked, closely approximated or remote; vein 5 is invariably absent. An interesting feature is that vein 6 in the hind wing may be present and fully developed, as in the genotype, *M. trapeziella* ZELLER, from India and Java, in *M.* (= *Autogriphus*) *lutea* WALSINGHAM, from South Africa, in *M.* (= *Propedesis*) *excisa* WALSINGHAM, from Japan, and in several of the following Papuan species; in other species vein 6 is either weak, but traceable along three-fourths of its length, reduced to a



minute basal trunk or entirely absent. An example of the latter situation is *M.* (= *Tribonica*) *eremitis* MEYRICK, from Ceylon. It is strange that the unstable nature of this vein in *Meridarchis* seems to have escaped attention, as we find no record of this fact by other authors. It is not possible to separate the genera *Meridarchis* and *Tribonica* by the aid of this feature, as not only gradual transitions can be found connecting separate species together, but also in individuals of the same species, and even in left and right hind wing of a single specimen vein 6 may be differently developed. This is rather unsatisfactory in view of the importance ascribed by MEYRICK to the presence or absence of this vein. We were accordingly obliged to revise the above key to the genera of the Carposinidae.

In all the following species the labial palpi in the male are rather short and subbaseending, in the female only moderately long, or even short and porrect but tending to be subbaseending (*M. anisopa* spec. nov.); the terminal segment in the two sexes is very short, exposed and narrowed.

#### Key to the Papuan species of *Meridarchis*

1. Shining white, markings (black) only along costa, in apex and along termen . . . . . *pseudomantis* MEYRICK  
Fore wing with markings not only marginal. . . . . 2
2. White, a black marginal line along apical part of costa and upper half of termen; discal markings, only two subbasal dots and two discal dots: at  $\frac{1}{3}$ , and on closing vein, respectively . . . . . *theriosema* MEYRICK  
Not thus . . . . . 3
3. Dark smoky-fuscous, without distinct markings but with transverse oblique ridges of raised scales only . . . . . *capnarcha* MEYRICK  
Discal markings present . . . . . 4
4. A conspicuous blackish longitudinal patch in disc, median or submedian . . . . . 5  
If a longitudinal discal patch present, then it is postmedian . . . . . 6
5. Discal patch narrow, curved and reaching costa posteriorly, but not connected with dorsum . . . . . *melanantha* spec. nov.  
Discal patch dilated posteriorly, ending in a narrow projection to costa, and on to dorsum . . . . . *melanopsacas* spec. nov.
6. Ground colour white or greyish-white, neither ochreous-tinged nor densely suffused and irrorated throughout with dark greyish-fuscous . . . . . 7  
Ground colour more or less tinged brownish or ochreous (dark or pale), sometimes light ochreous and densely irrorated with dark greyish-fuscous . . . . . 13
7. Basal patch reaching from costa to dorsum, not interrupted . . . . .  
. . . . . *picroscopa* MEYRICK  
Basal patch represented by a costal spot, sometimes a dot above dorsum or a pair of dots at base of disc . . . . . 8
8. Basal patch represented by a costal spot and two small dots above each other in base of disc . . . . . *heptaspila* MEYRICK  
Basal patch represented by a spot on costa and sometimes also by a dot above base of dorsum . . . . . 9
9. Basal patch represented only by a semioval costal dot connected with base of wing by a slender marginal streak . . . . . *oculosa*, spec. nov.  
Basal patch formed by a costal dot and also a dot above base of dorsum . . . . . 10

10. First discal spot large, rounded, no dot below this (below fold) . . . . .  
 . . . . . *anisopa* spec. nov.  
 First discal spot moderate, connected or accompanied by a dot below fold 11
11. Posterior  $\frac{4}{5}$  of costa suffused with dark grey, this suffusion dilated posteriorly,  
 discal dots of upper oblique series sharply edged with white, ultimate one  
 largest, with a blunt projection to lower angle of cell . . . . .  
 . . . . . *pentadrachma* spec. nov.  
 Costal part of wing posteriorly not thus suffused, dots of upper oblique discal  
 series not edged with white, ultimate one neither larger than first one, nor  
 connected with lower angle of cell or with a dot on that angle . . . . 12
12. First discal spot subpentagonal; a small dot on lower angle of cell; a broad  
 blackish transverse band beyond cell . . . . . *globifera* MEYRICK  
 First discal spot elongate-ovate; only a faint greyish suffusion on lower angle  
 of cell; preterminal band greyish . . . . . *globosa* spec. nov.
13. Whitish-ochreous, markings fuscous, a transverse greyish-fuscous suffused  
 patch before lower half of termen; head white . . . . . *monopa* DIAKONOFF  
 Not thus; when ground colour whitish-ochreous, then head ochreous . 14
14. Fore wing narrow, long . . . . . 15  
 Fore wing moderately broad, subtriangular . . . . . 18
15. Whitish-ochreous, irrorated with fuscous; blackish marks along costa; discal  
 marks: brownish dots, blackish spots towards upper angle of cell, black dash  
 beyond these . . . . . *zymota* MEYRICK  
 If whitish-ochreous, then discal markings not thus . . . . . 16
16. Densely suffused throughout with greyish-fuscous and grey, a large pale-  
 ochreous tuft on upper angle of cell, head greyish . *capnographa* spec. nov.  
 Sometimes only apical fourth of fore wing suffused with grey; head light  
 ochreous . . . . . 17
17. Triangular costal patch dark grey; two black dots in disc below middle of  
 costa . . . . . *chionochalca* spec. nov.  
 Triangular costal patch indicated by its brownish-fulvous edges, centred with  
 pale ground colour; no discal dots . . . . . *cosmia* spec. nov.
18. Hind wing grey. Fore wing pale ochreous, a subtriangular patch of ferruginous  
 irroration on costa beyond middle, a fuscous terminal blotch . . . . .  
 . . . . . *rodca* DIAKONOFF  
 Hind wing pale greyish-ochreous or pale ochreous. Fore wing irrorated or  
 suffused throughout with fuscous, greyish or ferruginous . . . . . 19
19. Ferruginous, a row of costal dots, and dots and raised scale-tufts in disc,  
 snow-white . . . . . *niphoptila* MEYRICK  
 Dots and tufts tawny, fuscous or blackish, not white . . . . . 20
20. Cell distinctly suffused with grey; three dots forming upper discal series;  
 blackish, edged with whitish . . . . . *cuphoxylon* spec. nov.  
 Cell not suffused with grey, three dots forming upper discal series large, tawny  
 or brownish, narrowly edged with pale ochreous . . . . . 21
21. Fore wing broader; costal dots: one beyond base, one at  $\frac{1}{3}$  and four along  
 posterior half; a suffused brownish spot on posterior part of cell . . . . .  
 . . . . . *drachmophora* DIAKONOFF  
 Fore wing narrower, costal dots: one larger at  $\frac{1}{3}$  and five along posterior  $\frac{2}{5}$ ;  
 no suffused spot in cell . . . . . *goes* spec. nov.

***Meridarchis cosmia* spec. nov. (fig. 506)**

*κόσμιος* = modest

♀ 17 mm. Head (damaged) whitish-ochreous, mixed with light brown.  
 Palpus long; fuscous, scattered with dark brown, broad upper edge of

median segment and top of terminal, white. Antenna light ochreous, mixed with pale brownish, flagellum ringed with dark brownish. Thorax light fuscous-ochreous mixed with light brown. Abdomen ochreous-whitish, anal tuft darker. Fore wing with veins 3 and 4 separate; narrowly-elongate, little dilated; costa little curved at base, straight posteriorly, apex sub-acute, long; termen slightly concave in middle, very oblique. Pale ochreous-whitish; base of costa faintly suffused with grey; marginal markings brownish-black: a series of six small triangular dots along costa, first dot before  $\frac{1}{4}$ , last at  $\frac{6}{7}$ , third and fourth dots somewhat larger, and more distinct; terminal edge narrowly marked with a fascia formed by groups of loose dark scales; a short transverse dorsal mark on end of fold; other markings suffused light brown: two transverse streaks forming together a large triangle, with base extending along costa from third to fifth costal dot, its apex almost reaching tornus; a cloudy elongate indistinct suffusion below posterior half of costa, except towards base, and a few irregular faint strigulae originating from it, running transversely over middle of cell. Cilia pale greyish-ochreous with somewhat darker basal half, strewn with sparse, brownish-black scales, a faint grey preapical line. Hind wing with veins 3 and 4 remote; pale greyish-whitish, glossy, edge finely darker; a faint marginal dark point in apex. Cilia light ochreous.

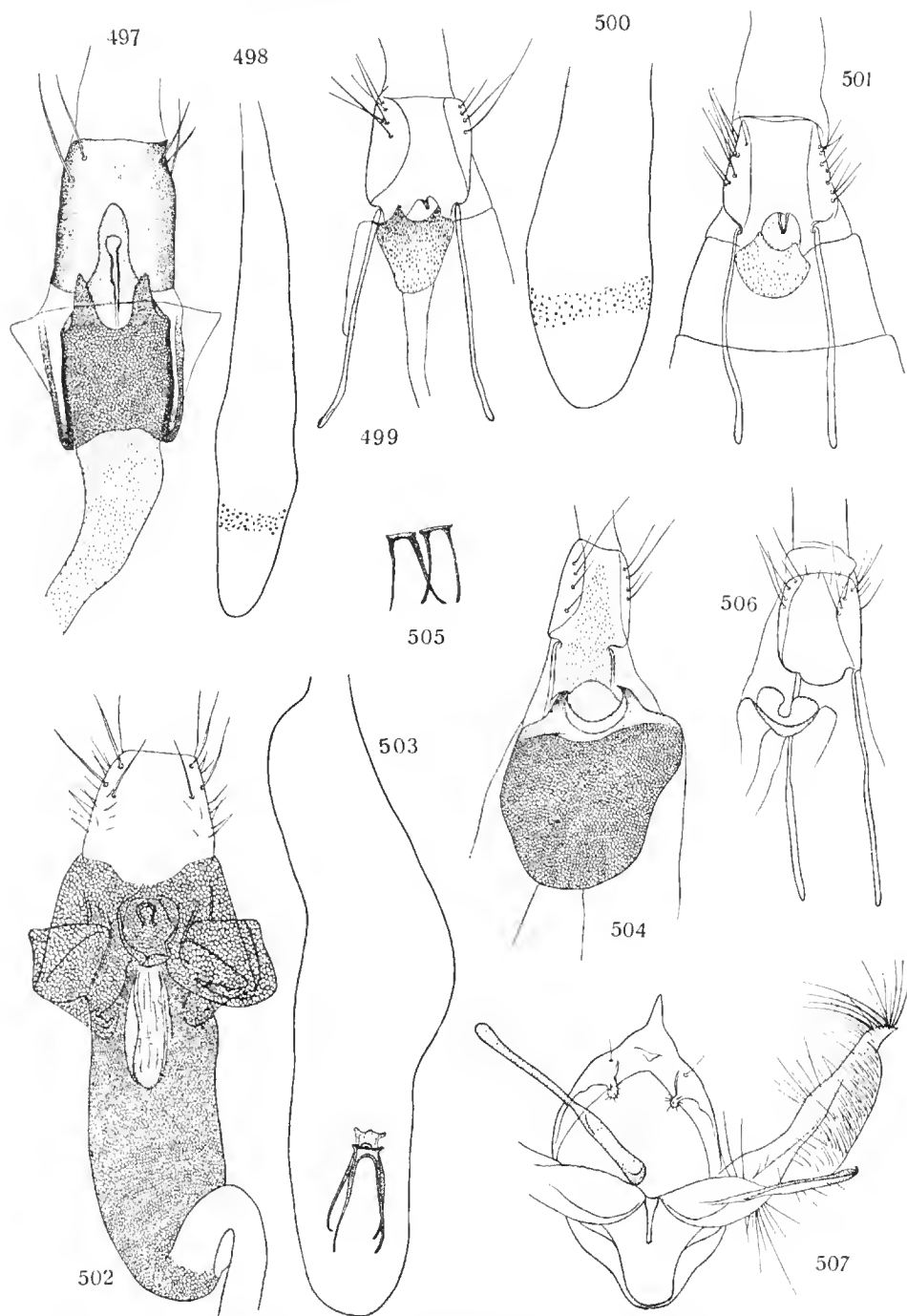
Ostium weak, not sclerotized, forming a shallow wide cup, dorsal wall truncate, deeply emarginate in middle. Ductus bursae finely scobinate. Bursa copulatrix simple. (Slide No. 836 D, type).

Top Camp, 2150 m, January 22, 1939. One specimen. Allied to *M. monopa* DIAKONOFF. In somewhat damaged condition, but very distinct. In both right and left hind wings vein 2 is furcate posteriorly.

***Meridarchis anisopa* spec. nov. (fig. 507, 516)**

$\alpha\iota\sigma\sigma$  = unequal,  $\omega\psi$  = eye

♂ 16—19 mm, ♀ 20 mm. Head and thorax white, the latter suffused with grey dorsally, shoulder with a black spot. Palpus white, basal half dark grey. Abdomen white. Legs white, anterior leg suffused with dark grey above. Fore wing with veins 3 and 4 separate; elongate-subovate; costa gradually curved, apex rather obtuse; termen rounded, moderately oblique. White, with suffused grey patches, markings greyish-black. Costa with an elongate spot beyond base, narrowly extended along costal edge anteriorly and posteriorly; three small blackish dots just below costal edge along posterior half, on veins 12, 11, and 10, respectively, sometimes anterior dot shaped as a narrow longitudinal streak, then others obliterate; a round dot above dorsum beyond base; a moderate semioval spot in disc at  $\frac{1}{3}$ , terminated below by fold, anterior and posterior edges straight, vertical; followed by a round dot just above fold at middle of wing length, sometimes a point just above fold halfway between these dots; an oblique series of three round dots: first below middle of costa, third on upper



Genitalia of *Meridarchis*. Fig. 497: *chimonocalca* spec. nov., female. Fig. 498: *idem*, bursa copulatrix. Fig. 499: *globosa* spec. nov., female. Fig. 500: *idem*, bursa copulatrix. Fig. 501: *pentadrachma* spec. nov., female. Fig. 502: *capnographa* spec. nov., female. Fig. 503: *idem*, bursa copulatrix. Fig. 504: *euphorylon*, spec. nov., female. Fig. 505: *idem*, signa. Fig. 506: *cosmia* spec. nov. Fig. 507: *anisopa* spec. nov., male.



angle of cell, middle dot sometimes smaller, elongate and somewhat approximated to third; grey suffusion forming an elongate patch along dorsum from  $\frac{1}{4}$ , hardly reaching above fold; a transverse spot beyond cell, connected with costa before apex, strongly narrowed below; a moderate fascia along termen from below apex to above tornus, connected below with preceding, sometimes extended and confluent with preceding, forming together a grey patch on terminal  $\frac{1}{5}$  of wing, terminated above by vein 9, with a whitish suffusion before apex and a curved grey suffused projection along termen to lower edge of cell. Cilia white, basal half suffused and faintly barred with pale grey, except opposite apex. Hind wing with vein 6 weak but distinct throughout, veins 3 and 4 stalked; whitish, faintly suffused with grey along termen and in apex; cilia white.

Tegumen broad, short. Uncus short, narrow. Gnathos, a small, short-bristled and curved projection at each side. Valva moderate, base concave, cucullus ending in an obliquely truncate point; sacculus with a long straight projection, terminating in a short, curved tooth. Aedoeagus slender, basal half clavate, apical rather small, asymmetrical, top truncate. Cornuti absent. Vinculum broad, triangular. (Slide No. 849 D, holotype).

Ostium rather broad. Limen, a large erect-ovate plate, with concave upper edge, a long acute projection at each side. Ductus bursae finely granulate. Bursa copulatrix long, narrow, simple. (Slide No. 845 D, allotype).

Top Camp, 2100 m, January 22, 1939 (holotype, male), January 25—26, 1939. Baliem Camp, 1700 m, November 16—27, 1938 (allotype, female). Three males, one female. Closely allied to *M. heptaspila* MEYRICK, differing by sparser black markings, and by less distinct postcellular transverse band.

***Meridarchis oculosa* spec. nov. (fig. 542)**

♂ 20 mm. Head, antenna, palpus white, basal and anterior half of median segment of palpus suffused with black. Thorax (imperfect) white, suffused with black medianly; tegula with a black median basal spot. Abdomen and legs white, anterior pair of legs suffused with black. Fore wing with veins 3 and 4 separate; elongate-triangular, slightly curved in middle, costa gradually curved throughout; apex rather obtuse, termen slightly rounded, oblique. Sordid white, markings black and suffused grey. Base of costa with a narrow black streak; three black dots in a straight very oblique series: first costal, semicircular, confluent with posterior half of preceding streak, not reaching middle of wing; second rounded, somewhat smaller, just above fold at  $\frac{1}{4}$  of wing length; third slightly more distant, elongate-subovate, smaller than second; another, almost straight series of four black dots, perceptibly converging with preceding series, from slightly beyond  $\frac{1}{3}$  of costa to upper angle of cell; first dot of this series ill-defined, small, elongate, greyish, other dots round, black, tolerably equidistant, ultimate largest; a short marginal dark grey streak on middle of costa;

a minute suffused greyish dot below costa on vein 11; a broad transverse band of dark grey suffusion occupying  $\frac{2}{3}$  of space between veins 10—8 from costa to cell, thence slightly inwards-oblique, to dorsum before tornus, occupying  $\frac{2}{3}$  of space between cell and termen, becoming ill-defined and paler below; this band leaving an elongate-ovate, ill-defined space of white ground colour beyond middle of closing vein; below anteriorly this space tolerably terminated by the course of vein 2; a grey suffusion along dorsum almost extending to fold but not reaching it, confluent with preceding suffusion, and continued as a moderate suffused dark grey terminal band as far as vein 7; this band more or less connected by pale grey suffusion with preterminal band except between veins 8—6, thus leaving an irregular apical spot of white ground colour. Cilia white, basal two-thirds suffused with ochreous-grey. Hind wing with veins 3 and 4 stalked, vein 6 present, becoming obliterate along posterior fifth; glossy white as far as the cell and vein 2, above them suffused with glossy pale grey, faintly touched ochreous. Cilia white, opposite suffused area tinged greyish.

Male genitalia very similar to those in *M. anisopa* spec. nov. Socius larger. Valva with the projection of sacculus forming a gradually narrowed, curved acute hook. Aedoeagus with flattened dilated top, and hammer-shaped broad base. (Slide No. 1114 D, type).

Lower Mist Camp, 1400—1600 m, January 8, 1939. One specimen. Nearly allied to the preceding species.

***Meridarchis globosa* spec. nov. (figs. 499, 500)**

♀ 19—22 mm. Head white. Palpus white, basal half black. Thorax grey, patagium and tegula white, shoulder with a black spot. Abdomen whitish. Legs white, anterior femur and tibia black, anterior coxa and tarsus, median knee and apex of tibia suffused with grey, median and posterior tarsi tinged ochreous. Fore wing elongate-subovate, little dilated; costa moderately curved, apex obtusely pointed; termen hardly rounded, moderately oblique. Whitish, more or less tinged grey, markings greyish-black. Anterior  $\frac{2}{5}$  of costal edge black; an elongate-triangular spot beyond base of costa connected with base by a short streak; four dots just below costal edge: first slightly elongate, at  $\frac{1}{3}$ , three following from beyond  $\frac{1}{2}$  to  $\frac{3}{4}$ , second sometimes much elongate, third and fourth with short transverse marks along ends of veins 11 and 10; a subquadrate spot above dorsum beyond base, with upper posterior angle rather angularly projecting; a large blotch before  $\frac{1}{3}$  of disc, regularly ovate above, rather truncate below by fold, more or less connected with an elongate-ovate dot below anterior half of the large blotch; this dot more or less obscured by a longitudinal streak of grey suffusion on dorsum, from well beyond base, hardly or not reaching above fold; a round dot between cell and fold about halfway between preceding and end of cell; three round dots in a longitudinal, very oblique series, first below costa slightly before middle, last

on upper angle of cell, median somewhat smaller, sometimes elongate; a transverse streak of dark grey suffusion halfway between cell and termen, strongly narrowed below, constricted below costa, connected with a moderate longitudinal suffused spot on costa before apex; a dark grey suffused streak along termen from below vein 7 to above tornus, sometimes connected below with preceding; a curved outwardly concave transverse grey shade, sometimes very faint, almost connecting posterior discal dot with lower angle of cell and with tornus; sometimes a grey suffusion extending over median third of wing above fold, then discal markings narrowly edged with white. Cilia rather dark fuscous-grey, tips paler. Hind wing whitish tinged pale ochreous, apical third, and especially apex, suffused with greyish. Cilia whitish, tinged pale fuscous towards apex.

Female genitalia very similar to those in the preceding species. Limen, an erect-ovate plate. Dorsal projection of the ostium shorter, longitudinal impression very short. Bursa copulatrix with a subapical transverse band of fine dentations. (Slide No. 856 D, holotype).

Moss Forest Camp, five km northeast of Lake Habbeina, 2800 m, October 17, 1938 (holotype), October 19, 1938 (paratype). Two specimens. Very near to *M. globifera* MEYRICK, 1938, but distinct by different arrangement of discal markings, and by differently shaped discal blotch and preterminal band.

***Meridarchis pentadrachma* spec. nov. (fig. 501)**

*πέντε* = five, *δραχμή* = a coin

♀ 20—25 mm. Head white. Palpus white, basal half black; lower edge of median segment and terminal segment except tip, suffused with black. Thorax dark grey, tegula white, a black dot on shoulder. Abdomen greyish-whitish. Legs whitish, anterior suffused with blackish, all tarsi tinged fuscous. Fore wing with veins 3 and 4 approximated; elongate-subtriangular, little dilated; costa curved, more so towards extremities, apex obtusely pointed; termen hardly rounded, moderately oblique. White, partially suffused with dark grey, markings black, with bronze tinge in certain lights. Costa beyond base with an elongate-semioval patch, narrowly connected along edge of wing with base, below not reaching fold; four black longitudinal costal marks from beyond  $\frac{1}{4}$  to beyond  $\frac{3}{4}$ , first mark largest, remote, ultimate mark rounded; a semicircular dot above dorsum beyond base; a moderate rounded or subpentagonal patch just above fold at  $\frac{1}{4}$ , confluent with a longitudinal spot obliquely before this below fold; an elongate-oval spot beyond preceding spot slightly reaching below fold; three dots in an oblique longitudinal series: first oval, below  $\frac{2}{5}$  of costa, posterior dot large, round, on upper angle of cell, with an inwardly oblique erect-oval appendix below, median dot oval, somewhat approximated to posterior; a transverse wedge-shaped patch of dark grey suffusion beyond cell, angulate below anteriorly and

touching posterior discal dot, narrowed towards costa and connected with a longitudinal small blackish patch along costa before apex, ending in apex; about five triangular suffused blackish terminal dots on veins, interconnected and narrowly produced anteriorly along veins, three lower dots confluent with preceding patch; a longitudinal dark grey streak occupying dorsum from beyond base to end of fold, with upper edge well-defined, slightly below fold, horizontal; a longitudinal grey suffusion along upper half of wing, from central third of costa to upper half of subterminal transverse patch, above with branches to costal markings, below indefinite, hardly reaching middle of disc dilated posteriorly, leaving well-defined white edges to three upper discal dots. Cilia whitish-grey, a dark grey median shade, darker towards apex; a whitish patch on basal half of cilia opposite apex. Hind wing with veins 3 and 4 stalked, vein 6 developed, but weak posteriorly; white or pale grey; cilia concolorous.

Ostium small, dorsal wall with a blunt projection, at the top of which a small longitudinal impression with finely dentate edge. Limen, a rounded plate, upper edge convex, with a point at each side. Bursa copulatrix long, small, simple. (Slide No. 855 D, holotype).

Lake Habbema, 3250—3300 m, August 19, 1938 (holotype), August 23, 1938. Two specimens. Closely allied to *M. octobola* MEYRICK, from Buru.

***Meridarchis chionocharca* spec. nov. (figs. 497, 498)**

*χιόν* = snow, *χαλκός* = copper

♀ 18—21 mm. Head shining white, faintly tinged yellowish, tufts on crown large, raised, meeting above crown. Palpus long, dark fuscous, basal segment below, upper edge of median segment posteriorly, and tip of terminal segment above, white. Antenna whitish, scape slightly infuscated above. Thorax whitish mixed with fuscous and dark fuscous, shoulder brighter fuscous. Abdomen whitish, anal segment bright ochreous. Fore wing with veins 3 and 4 separate; elongate-subtriangular, costa faintly curved at base, straight posteriorly; apex subacute, termed sinuate, very oblique. White, glossy, suffused with fulvous-fuscous and scattered with dark fuscous scales; basal patch twice as broad on costa as on dorsum, fulvous-fuscous, suffused on costa with dark fuscous; a fulvous-fuscous patch of raised scales below fold at  $\frac{1}{5}$ , dorsum below this patch scattered with dark scales; a light fulvous-fuscous suffusion along costa from before  $\frac{2}{5}$  to  $\frac{5}{6}$ , reaching below  $\frac{1}{4}$  of wing breadth, with anterior edge well-defined, indent and vertical, posterior edge suffused; connected with greyish suffusion in centre of cell which is edged posteriorly by a transverse ridge of raised scales on closing vein, with anterior half fulvous-fuscous, posterior half white; about six dark fuscous, elongate, somewhat suffused costal dots, becoming less elongate and semicircular posteriorly, first of them before  $\frac{2}{5}$ , last before apex; three large patches of raised scales in disc, dark fuscous, white posteriorly, arranged thus: two smaller, below



costa beyond  $\frac{1}{3}$ , and below middle, respectively, and one larger, below first subcostal patch, above fold; a faint subtriangular suffused dark fuscous spot on end of fold; a broad suffused preterminal transverse fascia, blackish-grey with bronze gloss, originating from two ultimate costal spots and apex and running to tornus, narrowed below and slightly barred above middle anteriorly with white; a series of five interneural triangular blackish-grey marginal dots from apex to tornus; dark fuscous scales scattered irregularly along fold, and on posterior half of wing. Cilia pale ochreous, basal half suffusedly barred with fuscous, a preapical fuscous line. Hind wing with veins 3 and 4 stalked; white, glossy, towards apex faintly tinged greyish; cilia white tinged pale ochreous.

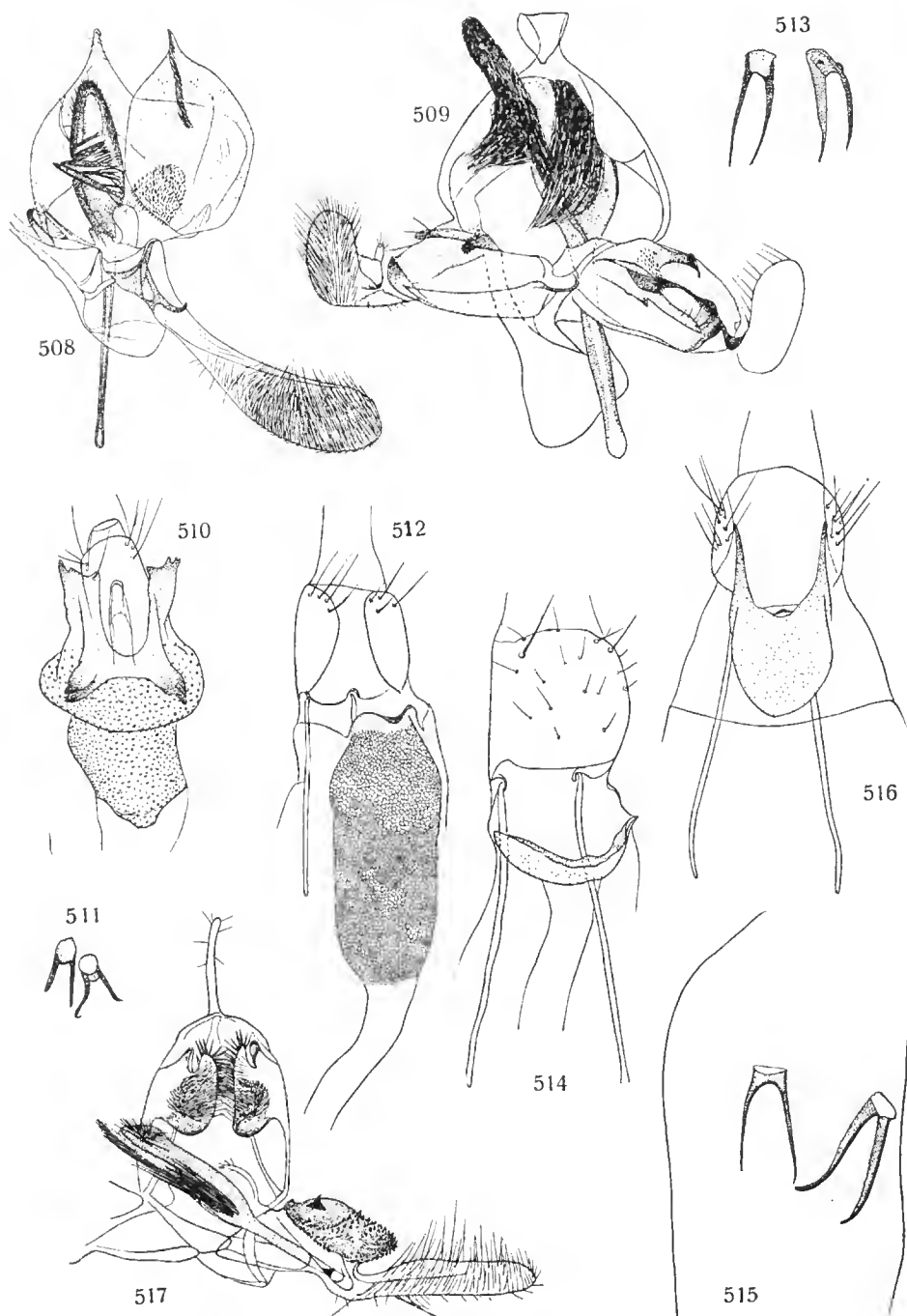
Ostium, a sclerotized wide cylinder, with retinate wall; upper edge with two cuspidate projections ventrally, dorsally produced in a long projection with a longitudinal ventral split. Ductus bursae finely retinate. Bursa copulatrix simple. (Slide No. 835, holotype).

Moss Forest Camp, five km northeast of Lake Habbema, 2800 m, October 15, 1938 (holotype). Top Camp, 2100 m, January 22, 1939. Two specimens. Allied to *M. eremitis* MEYRICK.

***Meridarchis capnographa* spec. nov. (figs. 502, 503)**

*καπνός* = smoke, *γράφω* = to write

♀ 23 mm. Head whitish, vertex with a semicircular fuscous mark. Palpus rather long, terminal segment drooping; blackish-fuscous, upper edge of median, and tip of terminal segment white. Antenna with scape whitish, ringed with dark fuscous; flagellum faintly ringed with fuscous. Thorax dark fuscous mixed with whitish. Abdomen whitish, venter with four dark fuscous spots posteriorly. Legs dark fuscous, ringed with dirty ochreous-whitish; posterior leg whitish mixed with fuscous. Fore wing with veins 7 and 8 short-stalked, 3 and 4 separate; very narrowly elongate, little dilated; costa little curved at base, straight posteriorly, apex subacute, termen sinuate, oblique. Rather dark brownish-fuscous, scattered with whitish scales, especially along costa; a darker semioval patch on basal sixth of costa; a slightly suffused elongate blackish costal spot at  $\frac{3}{4}$ ; followed by four smaller dots along posterior half, first of them just before middle; a larger fuscous transverse dot before apex; a large elongate-ovate, white-edged, transverse, inwardly oblique patch over middle of disc before  $\frac{1}{4}$ , followed by a small pale ochreous patch of raised scales above fold; another similar patch, larger, above fold beyond  $\frac{2}{5}$ , edged above and beneath by a short horizontal blackish streak, and below also edged with white; two small, white-edged, round blackish dots somewhat obliquely below costa before middle of wing; a large round patch of raised pale golden-ochreous scales on end of cell above middle of disc, white-edged and marked with dark fuscous above and below; a broad white-edged slightly suffused whitish-fuscous spot, connecting the last mentioned patch with posterior  $\frac{1}{5}$  of dorsum; dorsum somewhat paler except



Genitalia of Carposinidae. Fig. 508: *Meridarchis cuphoxylon* spec. nov., male. Fig. 509: *Spartoneura xerocrastis* spec. nov., male. Fig. 510: *Anomoeosis conites* spec. nov., female. Fig. 511: *idem*, signa. Fig. 512: *Camucostoma mcsosapra* spec. nov., female. Fig. 513: *idem*, signa. Fig. 514: *Meridarchis melanopsacas* spec. nov., female. Fig. 515: *idem*, part of bursa copulatrix with signa. Fig. 516: *M. anisopa* spec. nov., female. Fig. 517: *M. goes* spec. nov., male.

anteriorly, a minute dark fuscous transverse strigula on end of fold; a series of preterminal suffused dark fuscous dots from below costa to tornus, strongly angulate in middle of disc; a suffused whitish dot beyond this series, in tornus; a moderate somewhat suffused dark fuscous terminal fascia, from apex to tornus. Cilia with basal half dark fuscous, finely barred with white, anterior half white with a faint greyish preapical line. Hind wing with veins 3 and 4 connate; greyish-white, infuscated posteriorly, apical and upper half of terminal edge irregularly suffused with fuscous. Cilia whitish with a faint greyish median shade.

Ostium complicated, forming a very large erect bag with retinate or embossed surface, upper half dilated, with several lateral folds; ostium proper moderate, surrounded by a circular fold, below ostium a longitudinal impression in the wall of the bag. Bursa copulatrix long. Signa *II*-shaped, with slender, little curved legs and a sclerotized transverse bar, with moderate lateral projections, and a blunt and short median process. (Slide No. 837 D, type).

Moss Forest Camp, 2600—2800 m, October 9—November 5, 1938. One specimen.

***Meridarchis melanantha* spec. nov.**

*μέλας* = black, *ἄνθος* = a gem

♂ 18 mm. Head whitish. Palpus dark fuscous, white on inner side; median segment with white apical half of upper edge and apex; apical half of terminal segment also white. Antenna fuscous, scape white. Thorax whitish mixed with fuscous, shoulder blackish-brown. (Abdomen missing). Fore wing with veins 3 and 4 separate; narrowly elongate, dilated posteriorly; costa scarcely curved at base, straight posteriorly, apex long, subacute; termen slightly sinuate, very oblique. Whitish, densely strewn with fine and larger light fuscous dots, especially posteriorly; a moderate basal patch, blackish-brown, suffused with light fuscous on anterior half, with edge very oblique, slightly angulate on vein 12 and in fold; a large thick dark blackish-brown crescentic discal mark from below costa at  $\frac{1}{3}$ , running above fold to before  $\frac{3}{4}$  of costa, concave above; anterior extremity of this mark well-defined, regularly rounded, posterior half dilated and suffused, edged below by three patches, and posteriorly edged by a ridge of raised scales of ground colour; a subquadrate moderate dot on costa at  $\frac{2}{5}$ , two smaller dots close together on middle of costa, a smaller dot before apex, a moderate discal dot below second costal, touching crescentic mark: all dark blackish-brown; a faint fulvous suffusion along lower and posterior edges of crescentic mark; a series of indistinct elongate dark brown dots along apical and terminal edge. Cilia pale greyish-ochreous, a median and a preapical row of dark grey indistinct small bars. Hind

wing with veins 3 and 4 remote; white, glossy, edge finely darker; cilia dirty whitish-ochreous.

Moss Forest Camp, five km northeast of Lake Habbema, 2800 m, November 2, 1938. One specimen. Allied to *M. picroscopta* MEYRICK.

*Meridarchis melanopsacas* spec. nov. (figs. 514, 515)

μέλας = black, ψακάς = small piece

♀ 21 mm. Head whitish. Palpus rather long, median segment roughly tufted at base above and at apex beneath; blackish, posterior half of median segment above, and terminal segment white sprinkled with black. Thorax dark fuscous with an antemedian, and a postmedian suffused white band, anteriorly edged with pale fuscous. Antenna whitish, flagellum ringed with fuscous. Abdomen whitish. Legs whitish, anterior tarsus suffused with dark fuscous except on articulations. Fore wing with veins 3 and 4 connate; elongate-subovate, little dilated, costa gently curved anteriorly, straight posteriorly, apex subacute, termen slightly sinuate, very oblique. Whitish, strewn with dark fuscous scales. Base of costa with a subovate suffused dark fuscous spot; a moderate elongate dark fuscous costal dot at  $\frac{2}{5}$ , three smaller dots closer together along about second fourth, two small points before apex; a conspicuous blackish-fuscous streak along posterior half of lower edge of cell, continued along closing vein to below costa, filled with dark brownish-fuscous suffusion above, so as to form an invert triangle in cell in middle of disc; lower edge of this triangle anteriorly with two tufts of raised scales, with anterior half dark fuscous, posterior half white, a third such tuft below fold at about  $\frac{1}{5}$ ; posterior edge of triangle with a transverse ridge of raised white scales along closing vein; a narrow outwardly oblique dark fuscous strigula from top of discal triangle along end of fold to dorsum; dorsum before this strigula suffused with fuscous, especially at  $\frac{1}{6}$ ; apical and terminal seventh of wing suffused with fuscous, except on costa between first and second preapical points; anterior edge of this suffusion oblique, angulate in middle, running to tornus and to end of fold; this suffusion preceded by a broad transverse band of whitish ground colour, only sparsely scattered with dark fuscous scales; terminal edge with a series of suffused small triangular dots on ends of veins. Cilia whitish, barred with greyish-fuscous along basal half, a faint dark apical line. Hind wing with veins 3 and 4 stalked; whitish, slightly touched with smoky-greyish posteriorly; cilia whitish.

Ostium weak, simple, marked by a curved moderate limen. Ductus bursae finely scobinate. Bursa copulatrix large. Signa strong, slender, each formed by two blades with slightly serrate inner side, with narrow, gently curved points. (Slide No. 839 D, type).

Moss Forest Camp, 2600 m, October 17, 1938. One specimen. Allied to *M. syncolleta* MEYRICK, 1928, from the Andaman Islands.



***Meridarchis cuphoxylon* spec. nov. (figs. 504, 505, 508)***κοῦφος* = light, *ξύλον* = wood

♂ 27 mm, ♀ 28 mm. Head and scape of antenna pale ochreous. Palpus long in female, moderate in male; pale ochreous, median segment mixed with dark brown at base, strewn with dark brown sparse scales posteriorly; terminal segment suffused with brownish except at apex, base mixed with blackish. Thorax light ochreous suffused with light fuscous anteriorly, sometimes an indistinct darker median band, apex more or less marked with dark brown. Abdomen pale ochreous-whitish, anal tuft whitish. Legs light fuscous, anterior tibia in male suffused with dark brown. Fore wing with veins 3 and 4 separate; narrowly elongate-triangular; costa little curved, apex subacute, termen sinuate, oblique. Pale ochreous, irregularly suffused with light brownish-fuscous, and with dark fuscous; base of costa somewhat suffused with dark fuscous; a small blackish streak on dorsum beyond base, indistinct in female; four dark brown slightly elongate costal dots, first largest, before  $\frac{1}{3}$ , last at  $\frac{3}{4}$ ; three rather irregular moderate discal dots in an oblique series: first dot slightly before first costal dot, halfway between this and fold, other slightly approximated to each other, below second costal dot, respectively inwardly and outwardly oblique and rounded, sometimes suffused and ill-defined, mostly surrounded by dark fuscous suffusion in cell and finely edged by pale ground colour; a fine short angulate streak on end of fold and on dorsum below fold, mostly only its curved vertical half on fold distinct; sometimes a suffused dark brownish transverse streak on discoidal vein; a moderate brownish-fuscous marginal streak along costa before apex and along termen to tornus, interrupted on veins 9 and 8, dentate on terminal veins, narrowed below; two or three tufts of pale ochreous raised scales just below and above fold at  $\frac{1}{4}$ . Cilia pale ochreous, suffusedly barred with dark grey except on base, basal half scattered with dark brown scales. Hind wing with veins 3 and 4 stalked; whitish faintly tinged ochreous, cilia whitish.

Tegumen rounded, asymmetrical: left half swollen so as to form a large spheroid vesicle with a long point above. Uncus slender, small, erect-triangular, sparsely bristled below. Valva clavate, narrowed at  $\frac{1}{3}$ , cucullus bristled, harpe a strong subbasal hook. Vinculum erect-ovate. Aedoeagus long, stalk slender, spoon-like top erect, with rolled up, short-haired edges. Cornuti, a marginal row of strong bristles becoming shorter towards apex, but not reaching it. (Slide No. 840 D, holotype).

Ostium, a rounded, wide, finely retinate sac, orifice moderate, round, limen with a semicircular emargination, with a horn-like projection at each side, curved mediad. Dorsal wall of ostium with a moderate, curved rim. Ductus bursae with granulate wall. Bursa copulatrix large. Signa slender, each formed by two nail-like narrow rods with curved points. (Slide No. 841 D, allotype).

Moss Forest Camp, 2600—2800 m, October 9—November 5, 1938

(allotype, female). Lake Habbema, 3250—3300 m, August 19, 1938 (holotype, male), August 24, 1938. One male, two females. Allied to *M. erebolimnas* MEYRICK, 1938.

***Meridarchis niphoptila* MEYRICK, 1930**

*Meridarchis niphoptila* MEYRICK 1930, Exot. Microl., vol. 3, p. 588.

Distribution: British New Guinea, Mount Goliath, 6000 feet.

Sigi Camp, 1500 m, February 26, 1939. One female. Slightly differing from the original description: dark subcostal suffusion less developed, costal transverse white blotch reaching  $\frac{2}{3}$  across wing, dark subterminal transverse band edged only posteriorly by five rounded white dots, anterior edge only with a few minute white points.

***Meridarchis goes* spec. nov. (fig. 517)**

γόης = sorcerer

♂ 21.5 mm. Head and thorax light ochreous-brown, face and thorax dorsally pale ochreous. Palpus tawny, upper edge and cilia pale ochreous. Abdomen ochreous-whitish, anal tuft pale ochreous. Legs pale ochreous, above suffused with tawny, pale-ringed. Fore wing with veins 3 and 4 approximated; elongate, dilated, costa gently curved, apex obtusely pointed, termen sinuate. Pale ochreous, densely suffused with tawny-brown, irrorated with dark brown. Costa pale ochreous towards extremities, suffused with light tawny in middle; a moderate longitudinal greyish-tawny costal streak from beyond base; six brown costal spots: first large, subquadrate, at  $\frac{1}{3}$ , other small, becoming larger posteriorly, equidistant, arranged along posterior half of costa, last spot before apex; disc suffused with brighter tawny-brown, this suffusion connected by a lobe with first costal spot; two longitudinal very oblique series of spots: upper series subcostal, from beyond and below first costal spot, formed by three somewhat ovate, tawny-brown spots, narrowly edged by pale ochreous; last spot of this series with posterior half forming a triangular pale ochreous tuft on upper angle of cell; lower series of spots subplical, formed by three round appressed tufts of scales, pale ochreous, suffused with tawny, less distinctly edged with pale ochreous; first of these tufts at  $\frac{1}{3}$ , second approximated, third largest, on lower angle of cell; irregular longitudinal rows of scattered dark brown scales, beginning at about  $\frac{1}{5}$  of wing: below costa, along upper edge of cell, along fold, and above dorsum; an irregular transverse patch of ground colour edging cell posteriorly; wing beyond cell suffused with tawny along veins and along termen, ground colour elsewhere forming irregular pale ochreous patches; moderate longitudinal dark brown irregular spots between veins, forming a zigzag transverse series well before termen; median spot projecting anteriorly. Cilia light ochreous irrorated with brown opposite apex (except on tips), and along

base; a median, and a narrower subapical, fuscous line. Hind wing with vein 6 well-developed, veins 3 and 4 stalked; pale golden ochreous, an ovate patch of fine sparse black hairs on  $\frac{1}{3}$  of vein 1c; cilia dull light ochreous, a broad fuscous antemedian shade.

Tegumen moderately erect, broad. Uncus short, with a slender, long, slightly curved hook. Gnathos represented by a fold on each side which has a densely bristled median edge and deeply incised upper edge. Valva narrow, with a separate, heavily sclerotized costa, which is dentate along inner edge and posteriorly and bears a triangular tooth anteriorly; cucullus slender, elongate, bristled; sacculus simple, ending in a triangular tooth above. Aedocagus with a rather short stalk, apical half elongate, apex asymmetrical: a broad, short-bristled projection, and a slender projection densely bristled along one edge, cornuti being a dense sheaf of spines. Cristae: slender long projections. Vinculum moderate, triangular. (Slide No. 848 D, type).

Moss Forest Camp, 2600—2800 m, October 9—November 5, 1938. One specimen. Nearest to *M. drachmophora* DIAKONOFF, 1950, but with narrower wings and different markings.

**Spartoneura** gen. nov. (fig. 518)

*σπάρετος* = reed-like, *νεῦρον* = vein

Head with smoothly appressed scales. Ocellus posterior. Proboscis developed. Antenna moderately ciliate in male, ciliations about 1, scape flattened. Labial palpus subascending, median segment with appressed scales, dilated towards apex with rough scales forming a small tuft above, terminal segment short, obtuse, somewhat curved downward, exposed. Thorax broad. Fore wing with tufts of raised scales; 1b furcate at base, 2 from towards angle, 3—4 rather approximated, 8 separate, 9 moderately approximated to 8 at base, 11 from beyond middle of cell. Hind wing  $1\frac{1}{2}$ , semiovate, pointed, with cubital pecten in male, cilia  $\frac{1}{3}$ ; cell extremely short, under  $\frac{1}{4}$ , open, veins long: 2 apparently from towards angle,

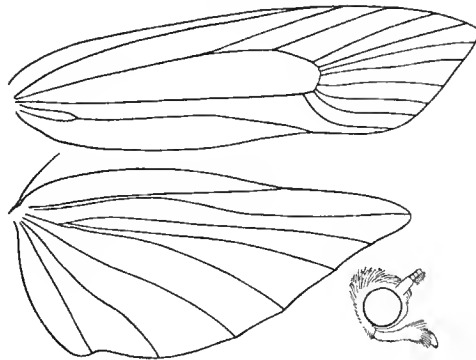


Fig. 518: *Spartoneura xerocrastis* gen. nov., spec. nov., male, wing neuration and head.

3 and 4 connate from angle(?), 5 and 6 absent, 7 appressed to 8 along about basal fourth of its length, then diverging, to apex.

Genotype: *Spartoneura xerocrastis* spec. nov., male.

An anomalous form; judging by the labial palpi it is nearest to the *Heterogymna* group.

***Spartoneura xerocrastis* spec. nov. (figs. 509, 518)**

ξηρός = dry, κράσις = grass

♂ 18.5 mm. Head whitish, irrorated with dark brown. Antenna light brown, scape with apex pale ochreous. Palpus ochreous-whitish, densely irrorated with dark brown, shoulder light brown. Abdomen ochreous-whitish. Legs light brown, ringed with whitish, posterior leg whitish, banded with fuscous. Fore wing elongate, narrow, little dilated; costa slightly curved at base, more curved along posterior half; apex rather pointed, termen tolerably straight, oblique. Ochreous-whitish, densely suffused with pale brown, irrorated with dark brown, markings light brown. Costa irrorated with light brown, a suffused darker brown spot beyond base and six small dark brown dots: first at  $\frac{3}{5}$ , other along posterior half, slightly more approximated to each other posteriorly; round, light brown, whitish-tipped tufts of raised scales: one below costa at  $\frac{1}{3}$ , one above fold before middle, and one on closing vein; base of each tuft narrowly edged by a whitish line, posterior tuft largest, triangular; two round brownish circular spots in a longitudinal series below middle of costa, posterior spot slightly lower; dark brown irroration forming a longitudinal row of irregular small spots below costa, and an interrupted line along fold; groups of dark brown scales scattered all over wing, edging discal spots and tufts above and below; terminal area suffused with light brown along veins, leaving irregular patches of whitish ground colour: moderate longitudinal dark brown streaks between veins arranged in a strongly posterad angulate transverse series, running about halfway between cell and costa, and between cell and termen, respectively, tolerably parallel to edge of wing; apex and termen more suffused with brownish-fuscous; an indication of a dark brown spot at base of dorsum. Cilia pale ochreous, apical third whitish, a postmedian greyish-fuscous band: well-defined posteriorly, suffused anteriorly. Hind wing dull whitish-ochreous, edge tinged brighter ochreous, apex faintly suffused with greyish. Cilia whitish-ochreous, a faint greyish median shade.

Tegumen broad, rounded. Uncus with a dorso-ventrally flattened broad hook. Gnathos represented by a rounded, moderately sclerotized, simple fold at each side of tegumen. Valva complicated: costa subtriangular, sclerotized, ventral edge dentate, with a long projection apically, dorsal edge with a short truncate projection, with a transverse ridge of short dentations; anterior half of valva strongly concave, edges sclerotized; saceulus ending in a transverse concave, dentate ridge; cucullus very



short, rounded, rectangularly bent upward, bristled; a small bristled knob at base of cucullus above. Aedoeagus huge: basal half slender, strong, apical half forming an asymmetrical spoon, left half with a brush of bristles, opposite excavations of the spoon a strong long projection clothed with appressed dense bristles which form a triangular brush on the right side. Vinculum large, triangular. (Slide No. 850 D, type).

Mist Camp, 1800 m, December 28, 1938. One specimen, with the dorsal half of the fore wings rather damaged.

**Camacostoma** gen. nov. (fig. 519)

κάμαξ = a pole, στόμα = mouth

Head with appressed scales. Ocellus small, posterior. Proboscis developed. Antenna in female simple. Palpus very long, porrect, median segment very long, gently bent, slender, with smoothly appressed scales, abruptly expanded and forming a moderate loose tuft slightly before middle of upper edge, terminal segment over  $\frac{1}{4}$  of median, cylindrical, smooth, top almost truncate. Fore wing with tufts of raised scales, 1b furcate at base, 2 from towards angle, 3—5 approximated, 8 and 9 stalked, 11 from beyond middle. Hind wing in female with cubital pecten, 2 from middle, 3 and 4 short-stalked from angle, 5 absent, 6 well-developed, parallel to 7 along  $\frac{2}{3}$ , then moderately diverging, closing vein sinuate, convex above, upper angle of cell strongly rounded.

Genotype *Camacostoma mesosapra* spec. nov., female.

Judging from the neurulation, nearest to *Meridarchis*, with a facies resembling that of *M. erebolimnas* MEYRICK, 1938. The peculiar, very long palpi with a moderate, not arrowed and almost truncate terminal segment deserve separation of this species from the latter genus.

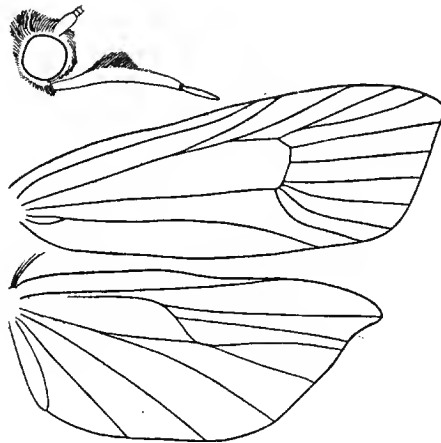


Fig. 519: *Camacostoma mesosapra* gen. nov., spec. nov., female, head and wing neurulation.

**Camacostoma mesosapra** spec. nov. (fig. 512, 513, 519)*μεσός* = middle, *σαπρός* = dirty

♀ 27 mm. Head whitish, touched with pale ochreous, side-tufts suffused with tawny. Palpus whitish, suffused with pale tawny, densely irrorated with dark fuscous; upper edge and apex of median, and base and apex of terminal segment, whitish. Thorax pale ochreous-whitish, slightly mixed with tawny, an indication of a postmedian dark fuscous transverse band. Abdomen whitish, infuscated dorsally. Legs ochreous-whitish, anterior leg infuscated, median and posterior legs more or less irrorated with fuscous laterally. Fore wing moderately broad, elongate-triangular, costa moderately curved, slightly impressed in middle, apex obtusely pointed, termen hardly sinuate, moderately oblique. Whitish, partially moderately suffused with light greyish-fuscous, coarsely speckled and irrorated with blackish-fuscous. Base of costa with a pale fuscous elongate suffused spot, which is ill-defined, triangularly extending below to fold, centred with blackish-fuscous irroration; five elongate costal spots from  $\frac{2}{3}$  to before apex, two posterior of these spots smaller, approximated; an elongate-triangular blackish-fuscous dot on dorsum beyond base; light fuscous suffused streaks along edges of cell, broadest along closing vein; coarse blackish-fuscous irroration all over the wing, except along costa, forming irregular blackish-fuscous spots: above fold well beyond base, in middle of wing before  $\frac{1}{3}$ , below  $\frac{1}{3}$  of costa, and above upper angle of cell, last spot elongate; a rounded dot in upper part of cell at about  $\frac{2}{5}$ , connected with a streak along posterior part of lower half of cell, running to its lower angle; cell posteriorly more or less filled with light fuscous suffusion, and irrorated with blackish-fuscous; a transverse patch of not obscured, whitish ground colour edging cell posteriorly, traversed only by a blackish streak between bases of veins 5 and 6; a broad transverse patch of fuscous suffusion halfway between cell and termen, connected with two posterior costal dots, but not reaching costa; this patch moderately narrowed below, connected by a narrow almost horizontal branch with dark spot above posterior angle of cell, below cell confluent with faint fuscous suffusion extending over dorsum; transverse suffusion with broad streaks of blackish-fuscous irroration between veins, more or less confluent on upper half and extending as a dark oblique streak to the ultimate costal spot; a not dilated marginal streak of blackish-fuscous suffusion from that spot, running along costa, in apex, and along termen to tornus; edge of wing more or less tinged brownish-fulvous; terminal veins, except at base, suffused with fuscous. Cilia (damaged) whitish, basal half with a row of broad greyish blotches, tips apparently greyish. Hind wing pale greyish-fuscous, becoming darker towards apex, ochreous-whitish towards dorsum. Cilia pale fuscous, with a darker submedian shade.

Ostium wide. Limen, a moderate transverse band with sinuate upper edge, a small fold medianly. Ductus bursae wide, subcylindrical, dilated

below ostium, wall strongly granulate, lower half abruptly narrowed. Bursa copulatrix very large. Signa with a concave apical plate, which is finely rippled transversely, appendages narrowed, little curved. (Slide No. 861 D, type).

Iebèlè Camp, 2250 m, November 17, 1938. One specimen; superficially resembling *Meridarchis erebolimnas* MEYRICK.

### **Carposina** HERRICH-SCHÄFFER, 1856

*Carposina* HERRICH-SCHÄFFER, 1856, Schmett. Eur., vol. 5, p. 38, pl. 12, figs. 1, 2. MEYRICK, Proc. Linn. Soc. N.S. Wales, vol. 35, pp. 146-147, 1910. Gener. Ins., fasc. 179, pp. 4-5, 1922. FLETCHER, Mem. Agric. Ind., Ent., vol. 11, p. 40, 1929.

*Enopa* WALKER, 1866, List Lep. Het. Brit. Mus., vol. 35, p. 1738.

*Oistophora* MEYRICK, 1881, Proc. Linn. Soc. N.S. Wales, vol. 6, p. 699.

*Heterocrossa* MEYRICK, 1882, *ibidem*, vol. 7, pp. 178-179.

### **Carposina mnia** spec. nov. (fig. 526)

*mnia* = memory

♀ 20 mm. Head white. Antenna whitish, scape mixed with dark fuscous. Palpus whitish, speckled with dark fuscous scales, except apices of median and terminal segments, and base of terminal segment. Thorax and abdomen whitish, tinged pale fuscous, with a faint golden gloss. Legs dark fuscous, whitish-ringed. Fore wing elongate-subtriangular; costa almost straight, slightly curved towards extremities, faintly prominent at  $\frac{1}{3}$ ; apex pointed, termen gently sinuate, considerably oblique. Glossy whitish, partially slightly irrorated with fuscous, markings dark fuscous. Basal patch small, much extended along costa so as to form a longitudinal dark fuscous streak, with inner edge strongly inwardly oblique, with a rectangular projection in middle, this edge vertical below fold; an ill-defined slender wedge-shaped inwardly oblique transverse streak at  $\frac{1}{4}$ , with a longitudinal dark mark on costa, abruptly dilated below this, gradually narrowed towards dorsum; three moderate equidistant costal dots from  $\frac{1}{2}$  to before  $\frac{3}{4}$ ; a large subquadrate slightly inwards-oblique patch beyond middle of disc, from well below costa to fold, connected by a faint longitudinal streak of fuscous suffusion above middle of disc with upper half of preceding transverse streak; only posterior edge of patch well-defined: concave, running along closing vein; upper and lower posterior angle of patch acutely erected, lower narrowly continued along fold to dorsum, and connected there with a moderate streak of fuscous suffusion, occupying about third fourth of dorsum; a cloudy transverse fascia of rather pale fuscous irroration from beyond  $\frac{5}{6}$  of costa to tornus, slightly inwards-oblique, moderately dilated below; a faint rising branch from below middle of this fascia anteriorly, almost connecting this with upper posterior angle of preceding patch; a small dot on costa before apex; a row of ill-defined fuscous dots on veins along tornus, interconnected by a minute

marginal fuscous line. Cilia sordid whitish, a faint postmedian greyish shade. Hind wing and cilia glossy whitish, former touched with pale fuscous.

Limen weak, dorsal fold shaped as an erect-triangular projection, ventral fold as a broad plate, with upper edge emarginate, finely plicate towards sides. Ductus bursae wide above, gradually narrowed, granulate. Bursa copulatrix simple. (Slide No. 862 D, type).

Top Camp, 2100 m, January 22, 1939. One specimen.

**Anomoeosis** gen. nov. (fig. 520)

*ἀνομοίωσις* = inequality

Head with appressed scales, face smooth, side tufts dense, roughish. Ocellus not perceptible. Proboscis developed. Antenna ciliate in male, ciliations 1, scape flattened. Labial palpus very long, longer in female; porrect, with smoothly appressed scales, seldom roughish along edges; median segment rather slender, gently curved downward, gradually slightly tapering towards extremities, with smoothly appressed scales, seldom roughish along edges; terminal segment short, pointed, exposed. Fore wing with tufts of raised scales. 1b furcate at base, 2 from towards angle, 3 from angle, 4 separate, somewhat approximated in female, 8 separate, 9 moderately approximated at base in male, 11 from beyond middle of cell. Hind wing without cubital pecten in male, pecten present in female; in male 1c thickened and appressed to lower edge of cell along base, 2 from beyond  $\frac{1}{3}$  of cell, 3 from angle, 4, 5, 6 absent; in female 1c free at base, 2 from  $\frac{1}{3}$ , 3 from angle, 4 remote, 5, 6 absent.

Genotype *Anomoeosis phanero stigma* spec. nov., male, female.

Allied to *Carposina*, but strongly differing by neurulation of hind wing and by smooth palpi.

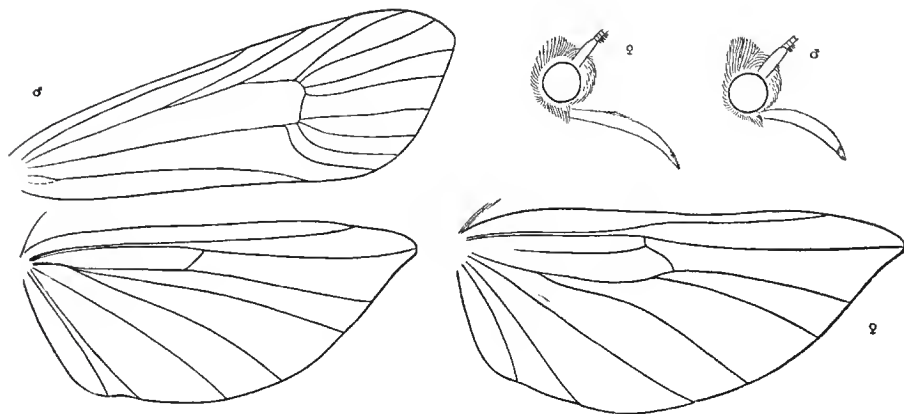


Fig. 520: *Anomoeosis phanero stigma* gen. nov., spec. nov., head female (left), head male (right), neurulation male (left), neurulation hind wing female (right).



Key to the species of *Anomoeosis*

1. Fore wing narrow, pointed, termen concave, considerably oblique . . . . . 2  
    Fore wing moderately broad, apex obtuse, termen rounded . . . . . 3
2. Whitish, moderately irrorated with grey; first costal dot is subbasal . . . . .  
    . . . . . *conites* spec. nov.  
    Pale ochreous, densely suffused with greyish-fuscous; first costal dot (being the  
    basal patch) is basal . . . . . *carphopasta* spec. nov.
3. Large species, 29–32 mm; fore wing elongate-triangular. Discal spots con-  
    spicuous. . . . . *phanerostigma* spec. nov.  
    Small species, 21 mm; fore wing elongate-subovate. Discal spots more or less  
    obscured by dark discal suffusion . . . . . *barbara*, spec. nov.

*Anomoeosis phanerostigma* spec. nov. (figs. 520, 521, 522, 523)

*φανέρωτος* = distinct, *στίγμα* = a spot

♂ 29 mm. Head pale ochreous, face white below. Palpus long, slender, pale ochreous, base infuscated, terminal segment with a dark fuscous dot at base above. Antenna pale ochreous, scape and basal fourth of flagellum darkly infuscated above. Thorax light ochreous, with a median, and a preapical dark fuscous transverse band, tegula dark fuscous, with light grey posterior half. Abdomen ochreous-whitish. Legs dark fuscous, light-ringed, posterior leg whitish. Fore wing elongate-subtriangular, considerably dilated, costa slightly curved, apex obtuse, termen rounded, oblique. Fuscous, with a bronze gloss, faintly scattered with darker scales, markings dark fuscous, discal edged with pale ochreous. Basal, paler area on costa one and a half times as broad as on dorsum, its posterior edge marked by slightly raised scales; basal third of costa fuscous, costal edge finely blackish, dorsal two-thirds pale ochreous with a median longitudinal dark fuscous streak, and a less distinct oblique streak from before middle of base to dorsum; followed by a large spot in disc from below costa to above dorsum, rounded posteriorly and with a longitudinal projection above fold reaching to  $\frac{1}{3}$  of wing, top of projection rounded; a slightly raised tuft of pale ochreous scales on middle of lower edge of the large spot; four discal dots: two subcostal before and beyond middle, first of them rounded, twice as large as second dot, which is ovate, one plical below first subcostal, subovate, smaller, and one minute dot rounded, beyond and above plical dot; a comma-shaped moderate streak on transverse vein, edged posteriorly by a slightly raised ridge of pale ochreous scales, with light edge confluent above with that of second subcostal spot; about seven costal dots, becoming fainter posteriorly, first on edge of basal area, second before  $\frac{2}{5}$ , other dots edged with pale ochreous posteriorly, equidistant, along posterior half of costa; a cloudy rather narrow wedge-shaped dark fuscous preterminal suffusion, from below costa, not reaching tornus; terminal edge with a suffused scobinate dark fuscous line; lower two-thirds of preterminal area rather paler, tinged greyish. Cilia dirty pale ochreous, basal half fuscous, barred with lighter, a faint preapical shade. Hind wing

whitish tinged with pale ochreous, apex faintly suffused with pale grey; cilia ochreous-whitish.

Tegumen moderate, subconical. Uncus, a slender hook. Valva rather slender, cucullus over  $\frac{1}{2}$ , narrowed, bristled, gently clavate, costa with a strong rising plate at base which is bristled ventrally and ends in two projections, anterior of these longer, bristled; harpe, a strong hook close to edge of sacculus. Vinculum weak, erect-triangular. Aedocagus with slender stalk and irregularly dilated bilobed base, terminal lobe long. Cornuti, patches of very dense slender bristles, and a comb of long spines. (Slide No. 843 D, holotype).

♀ 28—32 mm. Head whitish, tinged pale ochreous. Palpus very long and slender, whitish, base and lower edge mixed with a few blackish scales, terminal segment tinged greyish. Antenna whitish-ochreous, ringed and suffused with fuscous, base of flagellum dark fuscous. Thorax whitish finely irrorated with pale fuscous, dark fuscous anteriorly. Abdomen whitish. Fore wing with costa curved throughout. Glossy whitish, faintly tinged straw-colour, costa posteriorly and apex suffused with greyish, markings brownish-black. A moderate, ovate spot on base of costa, marked with blackish along costal and posterior edge; a large discal patch reaching along fold to plical dot; second discal dot obliterate; a greyish suffusion on posterior half of cell, edged by a darker streak on transverse vein; preterminal suffusion rather indefinite, inwardly angulate in middle, obliterate above and below; terminal line dissolved in a row of elongate dots. Cilia greyish-white, basal half with a series of quadrate greyish blotches. Hind wing and cilia paler than in male.

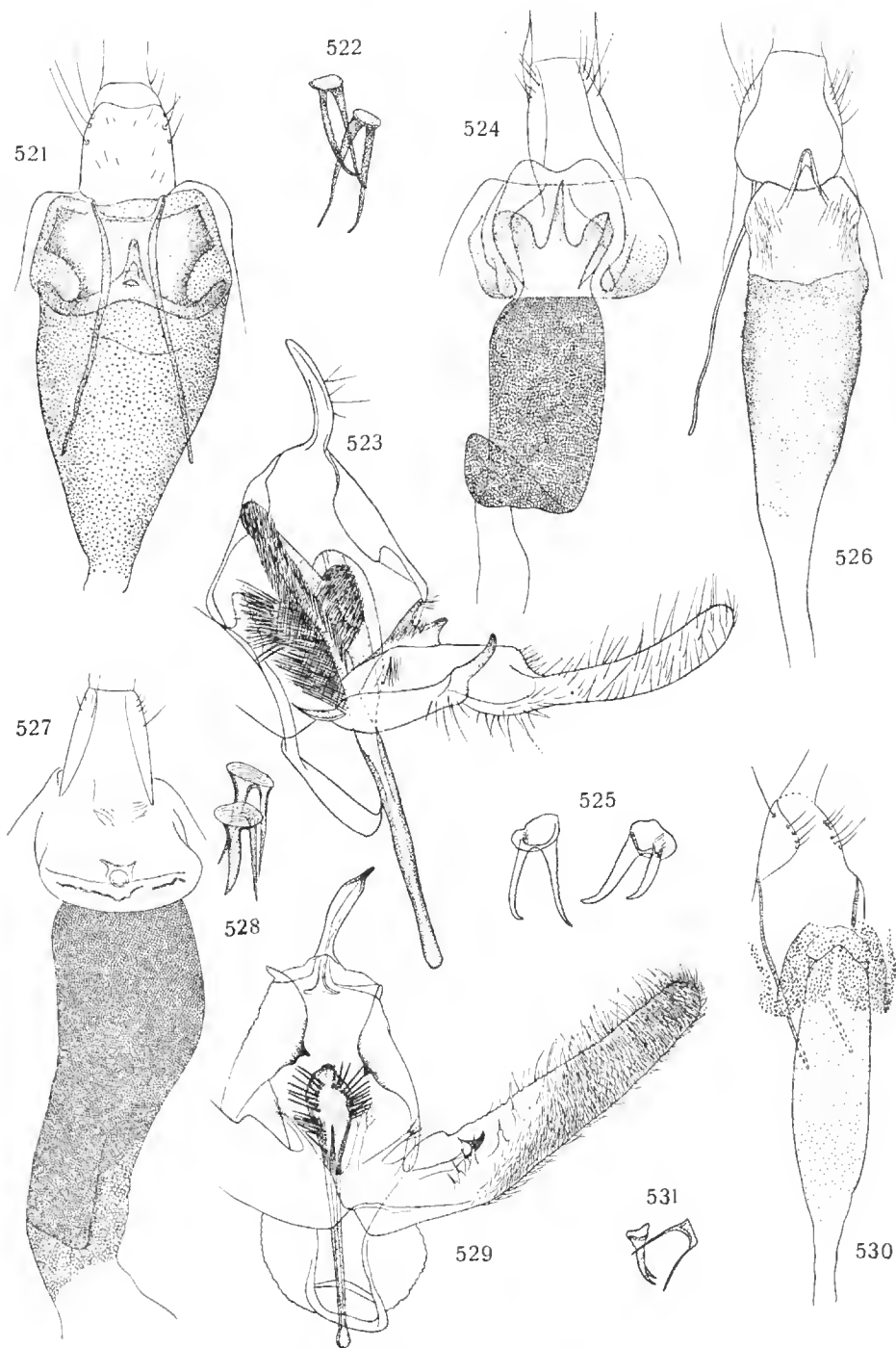
Ostium, a large bag, narrowed below, dorsal edge with a median projection. Limen represented by a moderately sclerotized large transverse plate, with upper edge curved, lateral edges each with a deep oblique emargination below middle. Signa with a rounded apical plate and rather slender appendages, which are finely serrulate along inner edge and slightly curved towards apex. (Slide No. 844 D, allotype).

Moss Forest Camp, 2600—2800 m, October 9—November 5, 1938. One male (holotype). Lake Habbema, 3250—3300 m, August 25, 1938, end July—end August, 1938 (allotype, female). Two females, somewhat damaged and much paler than the male specimen, but according to the discal markings, conspecific.

**Anomoeosis barbara** spec. nov. (figs. 524, 525)

*βάρβαρος* = coarse

♀ 21 mm. Head pale whitish-ochreous. Antenna with basal segment whitish-ochreous, flagellum pale fuscous, faintly ringed with blackish, basal fourth blackish. Palpus pale whitish-ochreous, basal half dark fuscous, a minute dark fuscous speck on base of terminal segment above. Thorax pale whitish-ochreous, speckled and anteriorly suffused with deep coffee-



Genitalia of Carposinidae. Fig. 521: *Anomoeosis phanerostigma* spec. nov., female. Fig. 522: *idem* signa. Fig. 523: *idem*, male. Fig. 524: *A. barbara* spec. nov., female. Fig. 525: *idem*, signa. Fig. 526: *Carposina mnia* spec. nov., female. Fig. 527: *Anomoeosis carphopasta*, spec. nov., female. Fig. 528: *idem*, signa. Fig. 529: *Heterogymna xenochroma* spec. nov., male. Fig. 530: *H. anterastes*, spec. nov., female. Fig. 531: *idem*, signa.

brown, a postmedian dark brown transverse band, narrowed in middle. Abdomen ochreous-greyish. Legs dark fuscous, ringed with pale ochreous, basal half of femora pale ochreous. Fore wing elongate, rather narrow, dilated; costa moderately curved anteriorly, straight posteriorly, except before apex; apex rather pointed, termen hardly convex, oblique. Pale whitish-ochreous, partially suffused and irrorated with light brown, markings deep coffee-brown. Base of costa with an elongate spot, extended at extreme base of wing to fold; small longitudinal costal marks: first at  $\frac{1}{3}$ , second to fourth along third fourth of costa, fifth well before apex; a large inwardly oblique triangular patch at  $\frac{1}{4}$  of disc, with upper edge horizontal, along upper edge of cell, top rather acute, on  $\frac{1}{5}$  of dorsum; this patch fuscous, posterior angle with a fuscous-blackish rounded spot: a larger, but less sharply defined, invert-trapezoid discal spot beyond middle, from upper edge of cell to fold; this spot dark coffee-brown, with upper edge more or less interrupted by faint vertical streaks of pale ground colour, which isolate anterior upper angle of patch, so as to form a round blackish spot; lower posterior angle of this patch connected along fold with a small spot of the same colour on dorsum before tornus; a subcostal streak of light suffusion from beyond base to about  $\frac{3}{4}$ , adjacent to discal patches; an elongate light brown patch along third fourth of dorsum below second discal patch, touching that patch, connected anteriorly with subcostal streak by a transverse light brown band, which is running between discal patches; a dark brown dot on fold beyond this band; fuscous and light brown irroration forming a more or less defined vertical fascia beyond cell, dilated above and merging in posterior extremity of subcostal streak; a dark coffee-brown transverse slightly inwards-oblique preterminal patch, extending from below subapical costal mark to above tornus narrowed below, with upper half deeply emarginate anteriorly; posterior extremity of costa, apex, and termen to tornus, with a series of dark coffee-brown longitudinal marginal streaks, forming above an almost continuous marginal fascia. Cilia glossy whitish-ochreous, tinged with pale brownish towards apex. Hind wing and cilia glossy whitish-ochreous.

Ostium moderate, dorsal wall sclerotized, with a strong obliquely truncate blade at each side, and with a long pointed median projection, ventral fold, an erect-ovate large plate, with emarginate upper edge; strong folds at each side of that edge. Ductus bursae strong, with granulate wall, flattened, sinuate dorsoventrally in middle, abruptly narrowed, membranous below sinuation. Signa with an irregular apical plate, and strong blade-like appendages, curved towards top and serrulate along inner edge. (Slide No. 847 D, type).

Moss Forest Camp, five km northeast of Lake Habbema, 2800 m, October 19, 1938. One specimen.



*Anomoeosis carphopasta* spec. nov. (figs. 527, 528)*καρόφος* = straw, *παστός* = strewn

♀ 19—20 mm. Head dark fuscous, side-tufts suffused pale ochreous-tawny. Palpus fuscous, irrorated with blackish-fuscous. Thorax pale ochreous-tawny, suffused with dark fuscous anteriorly, a curved blackish postmedian fascia interrupted in middle; apex of thorax blackish. Abdomen pale ochreous-greyish. Fore wing elongate, pointed, rather narrow; costa curved, apex rather pointed, termen rounded, very oblique. Light greyish-fuscous, densely and evenly irrorated with dark fuscous, markings blackish-fuscous and light ochreous. A moderate dark fuscous triangular basal patch, with edge straight, inwardly oblique, bordered posteriorly by a light-ochreous transverse streak, which is becoming narrower above, and is almost interrupted below costa; costa with six blackish elongate dots from  $\frac{2}{5}$  to before apex, posterior two dots ill-defined, dark fuscous; costal edge between dots narrowly suffused with pale ochreous; a moderate transverse blackish spot in cell at  $\frac{1}{4}$  of wing, preceded above by some blackish subcostal irroration, extended below posteriorly along fold as a short streak, which ends in a rounded raised light ochreous tuft of scales above middle of fold; another similar tuft, less raised, transverse, below and slightly before dark transverse spot, edged anteriorly with blackish; two round blackish dots on upper edge of cell, at  $\frac{1}{3}$  and  $\frac{2}{3}$  of distance between transverse spot and end of cell, respectively; a pale ochreous suffused and ill-defined streak along closing vein, dilated above and surmounted by a small patch of blackish suffusion which points towards fourth costal dot; a subtriangular blackish dorsal dot on end of fold, with top acute, somewhat curved along fold; apex and termen with an interrupted narrow streak of blackish irroration, below more or less separated into a row of dots on terminations of veins. Cilia light greyish-fuscous, suffused with darker fuscous along basal half. Hind wing light greyish-fuscous; cilia pale greyish-fuscous.

Ostium, a small ring, dilated dorsally. Limen, a large semioval bag. Ductus bursae, an erect, long and strong sac, dilated above, with granulate surface. Bursa copulatrix elongate. Signa with apical plate irregular, ornated with sinuate transverse rippings. (Slide No. 846 D, holotype).

Lake Habbema, 3250—3300 m, August 19, 1938 (holotype), August 26, 1938. Three specimens.

*Anomoeosis conites* spec. nov. (figs. 510, 511)*κονίτης* = ashy

♀ 22 mm. Head and thorax whitish mixed with dark fuscous-greyish. Palpus long, dark fuscous-greyish, median segment along posterior half and terminal segment at apex, suffused with white. Antenna whitish, ringed with dark fuscous-greyish. Abdomen whitish. Legs suffused with

dark fuscous, ringed with whitish. Fore wing narrowly elongate, dilated; costa gradually curved, apex subacute, long, termen slightly sinuate, very oblique. Whitish, irrorated with dark fuscous-greyish, markings black, discal edged with white; a moderate subtriangular patch at base of costa, almost connected with base of dorsum by two transverse oblique strigulae; six costal dots: first at  $\frac{1}{3}$ , a narrow, inwardly oblique transverse ridge of dark fuscous raised scales from below this dot to below fold, edged with white posteriorly; three dots closer to each other along costa from middle to before  $\frac{3}{4}$ ; three smaller discal dots below those, so as to form together with the above mentioned costal dots an invert triangle, with top reaching halfway across wing; two posterior discal dots followed by white raised scale tufts; two small black points on apical  $\frac{1}{6}$  of costa; a small transverse dorsal mark on end of fold; a row of small dots along termen and in tornus; a sinuate cloudy dark grey suffusion from  $\frac{5}{6}$  of costa to above tornus; a tuft of raised light scales marked above with blackish at  $\frac{2}{3}$  of fold. Cilia white with a grey median line. Hind wing whitish, apex faintly tinged grey; cilia white.

Ostium, a wide cylindrical sac, retinate, dilated above, with a long dorsal projection. Limen excavate in middle, with a long rising projection at each side, dilated and dentate terminally. Ductus bursae granulate. Signa rather small, each formed by a round plate and two slender, narrowed blades with hooked points. (Slide No. 842 D, type).

Lake Habbema, 3250—3300 m, August 26, 1938. One specimen.

**Actenoptila** gen. nov. (fig. 532)

$\alpha\kappa\tau\acute{\epsilon}\iota\varsigma$  = without pecten,  $\pi\iota\lambda\omicron\nu$  = wing

Head with closely appressed scales, face smooth. Ocellus not perceptible. Proboscis weak. Antenna in female not ciliated, appearing serrulate by moderate scaling, scape flattened. Labial palpus long, subascending; median segment slightly bent downward, with basal half smoothly scaled, slender, posterior half of median segment strongly dilated with roughly projecting scales above and beneath; terminal segment very short, hardly

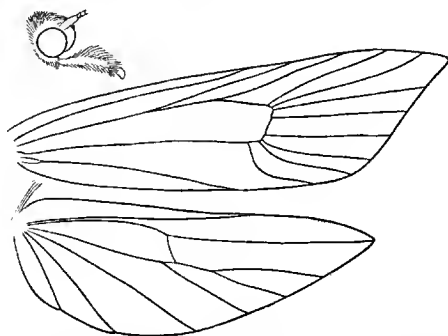


Fig. 532: *Actenoptila eucosma* gen. nov., spec. nov., female, head and wing neuration.

exposed. Fore wing with vein 1b furcate at base, 2 from towards angle, 3 and 4 approximated, 8 separate, 9 moderately approximated at base, 11 from beyond middle. Hind wing in female without cubital pecten; 2 from before angle, 3 and 4 stalked, 5 and 6 absent.

Genotype *Actenoptila eucosma* spec. nov., female.

Closely allied to *Heterogymna*, differing by absence of a cubital pecten in female. We presume that the male has subascending or ascending roughish palpi, and also no cubital pecten in hind wing.

#### Key to the species of *Actenoptila*

1. A large subtrapezoid costal patch . . . . . 2  
    No such patch. . . . . *heliotropia* spec. nov.
2. Costal patch deep bronze-brown . . . . . *eustales* spec. nov.  
    Costal patch greyish-fuscous, suffused with white, dotted with darker . . . .  
    . . . . . *eucosma* spec. nov.

#### *Actenoptila eucosma* spec. nov. (figs. 532, 536)

*ἐὺκοσμος* = ornate

♀ 18 mm. Head, abdomen and thorax white, the latter somewhat mixed with fuscous anteriorly. Palpus dark fuscous mixed with white, upper edge, except at base of terminal segment, white. Antenna white, flagellum somewhat infuscated. Abdomen and legs white, anterior and median legs more or less suffused with black. Fore wing elongate-subtriangular, dilated, costa little curved, apex subacute, termen distinctly sinuate, oblique. White, scattered with greyish-fuscous scales, more or less suffused with grey posteriorly; a triangular spot on base of costa not reaching base of wing and base of dorsum, suffused greyish-fuscous, dark fuscous anteriorly and posteriorly, posterior margin very oblique, edged with somewhat raised scales; a small tuft of slightly raised dark fuscous-grey scales on fold beyond basal patch; a large suffused fulvous-fuscous invert-trapezoid patch extending from  $\frac{1}{4}$  to  $\frac{3}{4}$  of costa, reaching halfway across wing; anterior half of this patch lighter, with three rather faint blackish subcostal dots, posterior edge very oblique and edged along transverse vein with a narrow ridge of somewhat raised white scales; lower anterior and posterior angles of the trapezoid patch each connected with a patch of slightly raised dark fuscous scales; six suffused blackish costal dots: four of these elongate, along trapezoid patch, first dot beyond anterior, last dot on posterior edge of that patch, two smaller dots preapical; a broad subterminal shade from costa to tornus, dark grey, ill-defined, sometimes almost obsolete, with posterior edge blackish, and more distinct below; a moderate triangular fulvous-fuscous apical patch, mostly indistinct, continued in a suffused row of fuscous spots along termen to tornus; a faint suffused transverse strigula on end of fold, connecting dorsum with trapezoid patch. Cilia whitish, tips grey, a broad suffused grey median

line, basal half scattered with dark fuscous scales. Hind wing whitish, suffused with greyish towards apex; cilia whitish-grey with paler basal line.

Ostium small. Limen, a small semiovate plate. Ductus bursae and bursa copulatrix simple. (Slide No. 863 D, holotype).

Lake Habbema, 3250—3300 m, August 10, 1938, August 19, 1938 (holotype). Two specimens.

**Actenoptila eustales** spec. nov. (fig. 545)

*εὐσταλής* = lovely

♀ 18 mm. Head and thorax shining white, the latter tinged coppery-yellowish. Antenna whitish, ringed with fuscous. Palpus fuscous-blackish, inner side white, upper edge of median segment, and terminal segment except a basal ring, white. Abdomen whitish-greyish, anal tuft with a blackish basal ring, which is open above. Legs black, articulations white-ringed. Fore wing elongate, dilated, costa moderately curved towards extremities, straight in middle; apex pointed, termen gently sinuate, considerably oblique. Shining white, slightly partially suffused with pale yellowish-coppery. Basal patch moderate, olive-tawny with strong coppery shine, costal half suffused with greyish-fuscous: edge with upper half convex, lower half concave, becoming indefinite towards dorsum; a large elongate-subtrapezoid fuscous-black spot, occupying almost middle half of costa, with anterior edge obliquely rounded with an angulation below costa and one above fold; lower edge of this spot ill-defined, mixed with white, reaching to fold, suffused with pale yellowish-coppery; posterior edge of spot obliquely concave, running along end of cell, produced along costa; this spot sparsely irrorated with fine whitish scales, almost traversed by a pale yellowish-coppery streak along vein 11, and bearing three small longitudinal whitish streaks along costal edge which become shorter and more distinct posteriorly; a subtriangular fuscous patch on  $\frac{1}{3}$  of dorsum, above produced into two curved horns, touching costal spot above fold; a curved dentiform black mark on dorsum before end of fold, followed by two small oblique black streaks above dorsum, posterior one minute; posterior half of wing occupied by a tawny-olive coppery shining patch, marked on costa with two black dots, separated by a white dot; this patch is edged anteriorly by an inwardly convex blackish streak, concave in middle of disc, ending in tornus; apex glossy white, continued by a glossy white streak along termen, which is narrowed below, almost interrupted by blackish-fuscous dots on terminations of veins from below apex to tornus. Cilia dull whitish-ochreous, faintly suffused in middle with olive-yellowish. Hind wing glossy whitish, tinged pale yellowish; cilia dull yellowish-whitish.

Ostium with a longitudinal ventral split, a pointed long rising blade at each side and a blunt dorsal projection, ending in a long filament, folded downward. Limen forming a broad punctulate transverse fold. Ductus



bursae, a wide, rather short sac with granulate wall. Bursa copulatrix simple. (Slide No. 866 D, type).

Moss Forest Camp, five km northeast of Lake Habbema, 2800 m, October 14, 1938. One specimen. A very distinct species.

***Actenoptila heliotropia* spec. nov. (fig. 539)**

*ἡλιοτρόπιος* = attracted by the sun

♀ 19—20 mm. Head, abdomen and thorax white, the latter with two greyish points in a median longitudinal series. Palpus white, basal half suffused with black. Antenna white, ringed with light grey. Legs blackish, ringed with white; posterior leg whitish, anterior tarsus suffused with ochreous. Fore wing elongate-subtriangular, rather narrow, dilated; costa curved throughout, apex rather obtuse, termen scarcely sinuate, almost straight, very oblique. White, scattered and suffused with dark grey, especially on posterior half. A triangular patch on base of costa, not reaching base of wing and base of dorsum, with upper half dark grey, lower half glossy yellowish-ochreous; six moderate rounded costal dots, becoming more suffused posteriorly, from beyond  $\frac{1}{4}$  to before apex; four blackish discal smaller dots in a horizontal row, first of these on posterior edge of basal patch above middle, last dot in middle, faintly suffused with golden-yellowish below; two small golden-yellowish spots mixed with blackish scales at  $\frac{1}{3}$  and  $\frac{2}{3}$  of fold, just below and above it, respectively; an elongate transverse blotch of slightly raised golden-yellowish scales on end of cell, not reaching fold, almost connected below with a transverse suffused dark grey subtriangular mark on dorsum at  $\frac{2}{5}$ ; posterior half of wing suffused with grey except on dorsum; a subterminal blackish-grey suffusion from below costa to about vein 3, with anterior edge concave above, rounded below; a marginal row of indistinct black points from costa before apex to tornus. Cilia white, apical third greyish, basal third with a row of subquadrate dark grey blotches. Hind wing whitish, suffused with grey posteriorly; cilia whitish with a broad, dark grey antemedian band.

Ostium wide, a moderate rising projection dorsally. Limen, a subtriangular transverse pad at each side of ostium, surface coarsely granulate and short-bristled. Ductus bursae forming above a wide sack with granulate wall. Bursa copulatrix simple. (Slide No. 934 D, holotype).

Scree Valley Camp, 3800 m, September 15, 1938, September 24, 1938 (holotype). Two specimens.

***Heterogymna* MEYRICK, 1913**

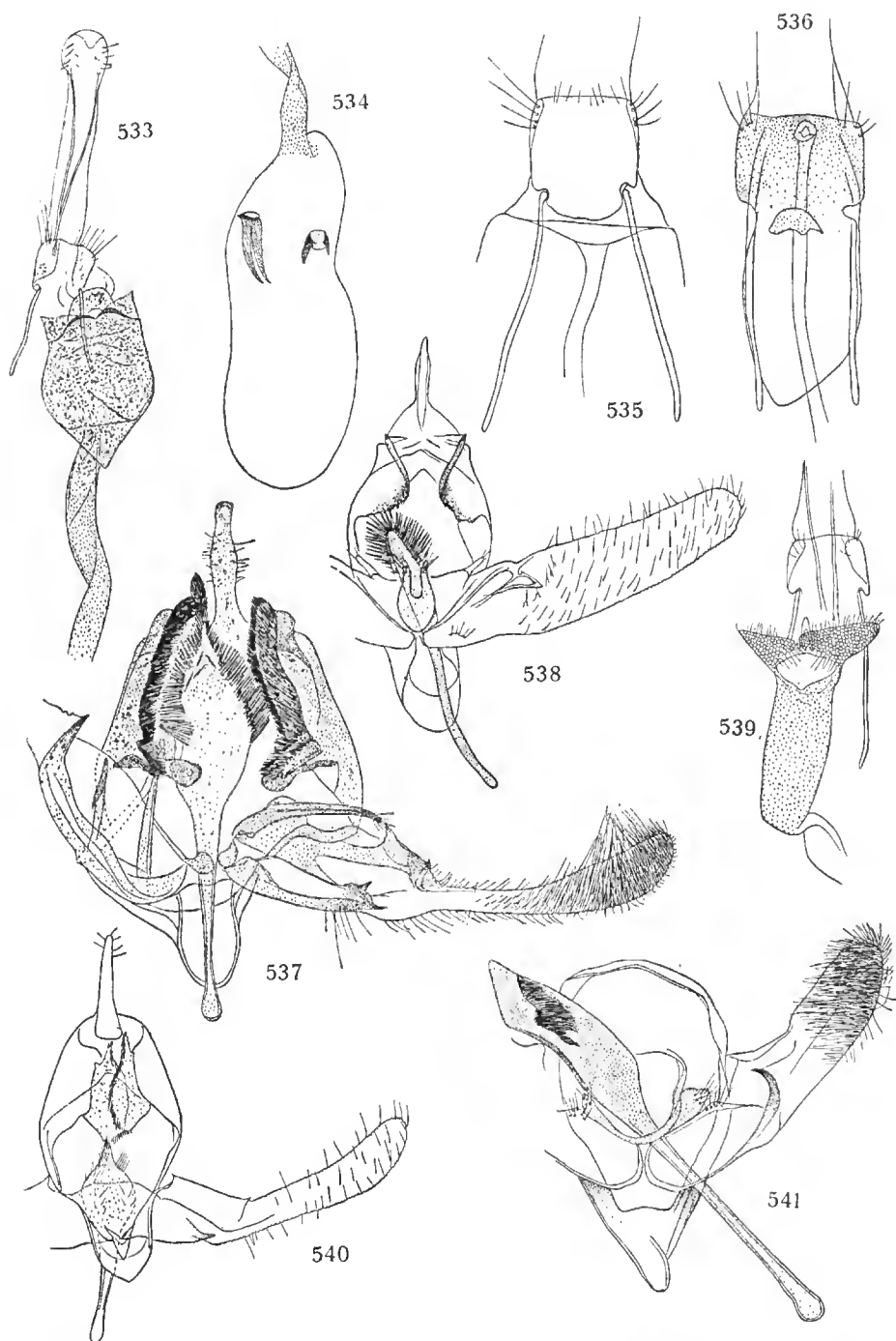
*Heterogymna* MEYRICK, 1913, Exot. Microl., vol. 1, p. 73. Gener. Ins., fasc. 179, pp. 7—8, 1922.

Key to the Papuan species of *Heterogymna*

1. Fore wing densely suffused with grey, a transverse pale-edged mark on closing vein . . . . . *xenochroma* spec. nov.  
Not thus . . . . . 2
2. Series of dark round dots, in disc sometimes pale-edged . . . . . 3  
No such discal dots . . . . . 7
3. Discal dots minute; fore wing very narrow. . . . . *stenygna* spec. nov.  
Discal dots rather large, fore wing of normal shape; elongate-subtriangular . . 4
4. Anterior  $\frac{3}{4}$  of disc considerably suffused with fuscous-grey, except white edge of some discal dots . . . . . 5  
Only a moderate suffusion in cell posteriorly . . . . . 6
5. A suffused grey terminal fascia . . . . . *comitalis* MEYRICK  
A grey blotch along median part of termen and three suffused black spots confluent on margin . . . . . *collegialis* MEYRICK
6. A dot on base of costa, much larger than discal dots, rounded-ovate; termen darkly suffused . . . . . *melanococca* spec. nov.  
Basal dot on costa hardly larger than discal dots; termen with a pale fuscous dentate fascia . . . . . *polystigma* spec. nov.
7. A large fuscous-blackish subtriangular costal patch . . . *anterastes* spec. nov.  
A faint, inwardly oblique transverse stiga at  $\frac{3}{4}$  . . . *parthenia* spec. nov.

***Heterogymna anterastes* spec. nov. (figs. 530, 531)***ἀντεραστής* = an opponent

♀ 17.5 mm. Head and thorax snow-white, the latter with a narrow angulate dark grey transverse streak. Palpus dark fuscous at base and below, upper half of median segment and terminal segment throughout snow-white. Abdomen whitish-ochreous. Legs dark fuscous, white-ringed, posterior leg white above. Fore wing with veins 3 and 4 remote; narrowly-elongate, somewhat dilated; costa little curved at base, straight elsewhere, apex long, subacute; termen faintly convex, very oblique. Snow-white, glossy; a rather large basal patch, brownish-black on costa and along both vertical edges, turning olive-greenish in middle and on dorsum; its outer edge sharply defined, running from costa beyond  $\frac{1}{6}$  obliquely to dorsum before base, edged in middle by raised white scales; a large brownish-black invert-trapezoid patch along middle half of costa reaching halfway across wing, with edges very oblique, anterior edge ending below in a large rounded spot of raised scales reaching to fold; posterior margin ends below in a short transverse streak, and is edged posteriorly throughout by a ridge of raised white scales; a small triangular dorsal patch before end of fold opposite this ridge, somewhat lighter olive-brownish, with bronze gloss along lower half, except along vertical edges; a moderate subquadrate blotch on costa at  $\frac{4}{5}$ , followed by a smaller blotch, both connected with tornus by a fureate transverse little oblique suffused fascia, which is dilated above and fureate below costa; apical and terminal edge with a series of brownish-black streaks; a round patch of raised white scales below  $\frac{2}{5}$  of fold. Cilia leaden-grey, dark grey at apex, basal half suffused



Genitalia of Carposinidae. Fig. 533: *Histrichomorpha acanthina* spec. nov., female. Fig. 534: *idem*, bursa copulatrix. Fig. 535: *Heterogymna polystigma* spec. nov., female. Fig. 536: *Actenoptila eucosma* spec. nov., female. Fig. 537: *Blipta technica* spec. nov., male. Fig. 538: *Heterogymna parthenia* spec. nov., male. Fig. 539: *Actenoptila heliotropia* spec. nov., female. Fig. 540: *Heterogymna stenogra* spec. nov., male. Fig. 541: *Xyloides lamproxylon* spec. nov., male.

with white throughout. Hind wing white; with veins 3 and 4 stalked. Cilia white, tinged with pale greyish.

Ostium surrounded by a membranous, subdentate fold. Ductus bursae broad, cylindrical, finely granulate, lower half narrow, membranous. Signa moderate, apical plate clongate. (Slide No. 865 D, type).

Lake Habbema, 3250—3300 m, August 26, 1939. One specimen. Allied to *H. episacta* MEYRICK, from Ceylon.

***Heterogymna xenochroma* spec. nov. (fig. 529)**

$\xi\acute{\epsilon}\rho\omicron\varsigma$  = strange,  $\chi\rho\omega\mu\alpha$  = colour

♂ 19 mm. Head white. Palpus moderate, whitish, blackish-fuscous along basal half. Antenna whitish, flagellum ringed with fuscous. Thorax pale ochreous, suffused with dark leaden-grey, apex dark leaden-grey, shoulder with a black dot. Abdomen whitish, venter blackish, anal tuft large, light ochreous. Legs whitish, anterior leg suffused with dark grey. Fore wing with veins 8 and 9 short-stalked, veins 3 and 4 separate; costa gradually slightly curved throughout, apex subacute, very narrowly elongate, little dilated, termen slightly sinuate, oblique. Dark leaden-grey, somewhat glossy, darker anteriorly, markings blackish, discal edged with pale ochreous. Basal patch narrow, with margin straight, oblique, edged with pale ochreous; basal third of patch black, elsewhere it is pale-ochreous, with posterior edge faintly suffused with blackish, with a minute median horizontal black streak; small suffused clongate-ovate costal dots: first largest, beyond  $\frac{1}{4}$ , four other dots from before middle to just before apex, second and last dots larger, elongate; two small round tufts of raised scales in disc beyond  $\frac{1}{6}$ : at  $\frac{1}{3}$  and  $\frac{2}{3}$  of wing breadth, respectively, pale ochreous, in centre mixed with blackish; two rounded black, light-edged dots somewhat obliquely below costa before middle, a third similar dot above fold a little beyond first subcostal; a transverse, slightly oblique light-edged black streak on discoidal vein from below costa not reaching fold; a faint brownish discal transverse suffusion before this streak, from below costa reaching to dorsum; another suffusion preterminal, somewhat oblique, from costa and apex, reaching  $\frac{3}{4}$  across wing; a row of short blackish streaks along terminal edge to tornus. Cilia whitish, suffusedly barred with dark grey, on costa with dark fuscous, except on base. Hind wing with vein 2 from middle, veins 3 and 4 stalked; fuscous-greyish, paler anteriorly, cilia grey with tips and base whitish.

Tegumen truncate, lateral folds bent ventrad, each ending in a strong point. Uncus, a slender, clavate, pointed hook. Valva narrow, hardly dilated towards base, cucullus rounded, base of costa with a slender projection haired at top, ampulla a curved tooth at  $\frac{1}{4}$  and an oblique row of short papillae, each ending in a bristle. Vineulum elongate, triangular. A long slender bipartite furca present. Aedocagus spoon-like, with dilated top. Cornuti, a submarginal wreath of bristles. (Slide No. 838 D, type).



Moss Forest Camp, 2600—2800 m, October 9—November 5, 1938. One specimen. Superficially suggests a *Bondia questrix* MEYRICK.

***Heterogymna parthenia* spec. nov. (fig. 538)**

*παρθένια* = virgin

♂ 20 mm. Head and antenna whitish, tinged pale-ochreous, flagellum ringed with pale grey. Palpus blackish, top of median segment white, terminal segment pale grey. Thorax whitish, tinged pale ochreous, with a transverse blackish band occupying median third, patagium suffused with greyish, shoulder black. Abdomen white. Legs blackish, ringed with whitish, posterior, leg suffused with whitish. Fore wing narrowly elongate-subtriangular, dilated; costa little curved at base, scarcely curved posteriorly; apex long, subacute, termen slightly sinuate, very oblique. Whitish, tinged pale ochreous, with a faint golden gloss, markings blackish-bronze, with a metallic gloss. A moderate triangular basal patch occupying about  $\frac{1}{7}$  of costa, with posterior edge very oblique, with somewhat rounded top just above base of dorsum; base of wing with a small whitish suffusion; four considerably suffused subquadrate costal dots decreasing in size posteriorly, first before  $\frac{2}{5}$ , last at  $\frac{2}{3}$ ; a slender, inwardly concave streak along lower  $\frac{3}{4}$  of transverse vein, a somewhat suffused vertical broader streak below this on dorsum; wing before these two streaks somewhat darker, scattered with blackish-grey scales, beyond them almost white, sparsely scattered with dark scales; an irroration of blackish scales before apex on upper half of disc; four fine black discal points: three in a subcostal series from before to beyond  $\frac{1}{3}$ , fourth below fold at  $\frac{1}{4}$ ; a moderate sharply defined marginal streak in apex and along termen to tornus, preceded by a small dot on costa before apex. Cilia ochreous-greyish with bronze shine. Hind wing with vein 2 from  $\frac{2}{3}$ , 3 and 4 stalked; white, apical and upper part of terminal margin narrowly suffused with light greyish. Cilia white.

Tegumen rounded, with a convex fold at each side, with dentate edge, upper half of this with a strong oblique simple rim. Uncus with rectangular shoulder, very short, hook long, pointed. Valva elongate, broadest before middle, harpe a discal tooth anteriorly; a slender bristled projection at base of valva. Aedocagus slender, top dilated, cuspidate, a wreath of strong bristles along edge. A furca at base of preceding. Vinculum rather long, with a rounded top. (Slide No. 851 D, type).

Letterbox Camp, 3600 m, September 5, 1938. One specimen.

***Heterogymna stenygra* spec. nov. (fig. 540)**

*στενυγρός* = narrow

♂ 16 mm. Head and scape of antenna whitish, flagellum grey. Palpus fuscous-grey, upper edge of median segment posteriorly whitish. Thorax and abdomen greyish-white, shoulder narrowly fuscous. Legs grey, whitish-

ringed. Fore wing narrowly elongate-triangular, costa straight, slightly curved at extremities, apex long, rounded, termen gently concave, very oblique. Fuscous-grey, irrorated with white. A blackish longitudinal mark on base of costa and six more marks along posterior  $\frac{2}{3}$ , becoming thicker and fuscous posteriorly; discal stigmata small, rounded: first discal before  $\frac{1}{4}$ , just above fold, almost touching an inwardly oblique small transverse mark in fold before this stigma, second discal on closing vein in middle of disc; plical stigma elongate, at  $\frac{1}{3}$ ; two faint small pale ochreous spots: above plical and above second discal stigma, respectively, the latter larger, together with second discal stigma edged posteriorly by an inwardly oblique whitish transverse streak; a moderate, triangular fuscous-blackish dorsal spot on end of fold; an ill-defined transverse subterminal patch of the same colour, from below costa to above tornus, interrupted above middle, upper part tending to dissolve in three blackish dots; costal marks accentuated by whitish irroration between them, terminal edge not irrorated with white. Cilia pale ochreous-whitish with dark grey tips, basal two-thirds densely irrorated with fuscous-grey except in tornus, edge of this irroration well-defined, base of cilia narrowly ochreous-whitish. Hind wing very pale fuscous-grey; cilia greyish-white.

Tegumen elongate, broadest in middle, with an erect-pentagonal body at each side, upper edge with a slender rising and bristled projection, ventral edge bristled, lower edge angulate. Uncus, a moderate hook. Valva slender, narrowed, cucullus somewhat clavate; sacculus short, with a terminal tooth. Aedocagus moderate, cuspidate, with a marginal wreath of spines. Vinculum strong, erect-ovate. (Slide No. 854 D, type).

Lake Habnema, 3250—3300 m, August 20, 1938. One specimen.

***Heterogymna melanococca* spec. nov. (fig. 544)**

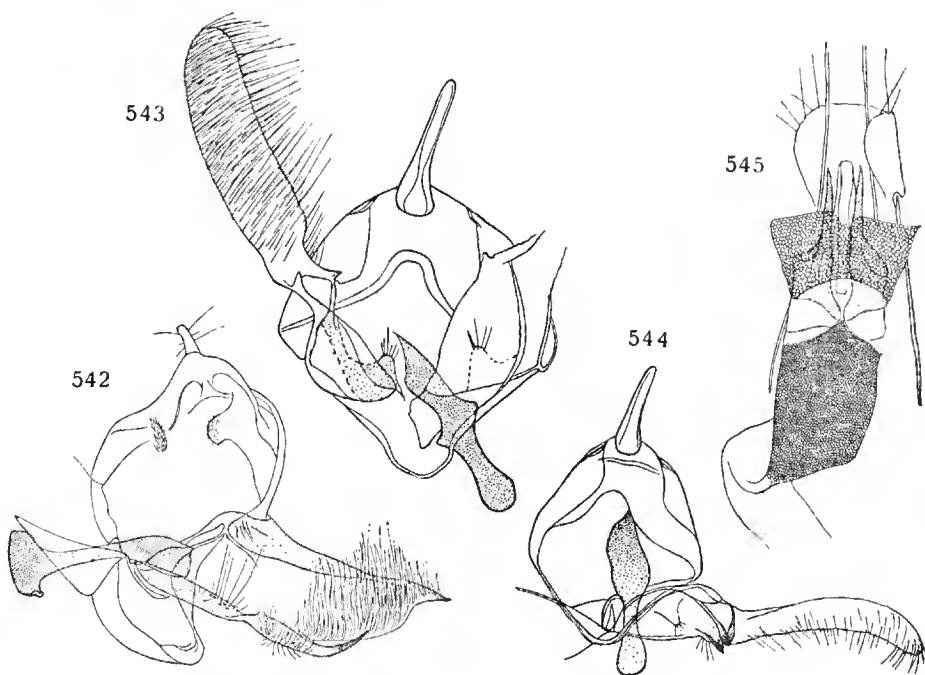
*μέλας* = black, *κόκκος* = kernel

♂ 27 mm. Head white. Antenna dark grey, white above. Palpus dark grey, upper, and apical edge of median segment and terminal segment throughout, white. Thorax (damaged) glossy blackish-grey, posteriorly mixed with white, tegula white with black basal half. Abdomen pale ochreous-whitish with bronze gloss. Legs dark grey, whitish below, posterior leg pale grey. Fore wing elongate-triangular, rather dilated, costa curved, apex obtuse, termen gently rounded, oblique. Whitish, suffused with grey, markings black. Edge of costa anteriorly black; a semioval patch on costa beyond base not reaching fold, connected by a streak of blackish suffusion along edge of costa with base; moderate longitudinal marks on costa: at  $\frac{1}{3}$ , beyond middle, beyond  $\frac{2}{3}$ , and at  $\frac{3}{4}$ , penultimate mark small, ultimate subtriangular, almost connected by blackish suffusion with upper angle of cell; an oval dot above dorsum beyond base; an oblique longitudinal series of three dots: first dot round, below costa beyond  $\frac{2}{5}$ , median dot ovate, third dot largest, round, on

upper angle of cell, connected with a smaller ovate dot on lower angle; a round dot just above fold slightly before  $\frac{1}{3}$ , connected with another somewhat smaller similar dot below fold, slightly before preceding; a smaller ovate dot just above fold between the last mentioned dot and lower angle of cell, closer to the latter; cloudy dark grey suffusion arranged thus; a streak along dorsum from well beyond base, anteriorly hardly reaching above vein 1b, posteriorly extended as a streak along this vein to end of fold, a vertical patch from dorsum before tornus to lower edge of cell, below indistinctly extending to tornus, and an ill-defined suffusion in cell posteriorly; two faint grey suffused dots on costa before apex, connected with a blotch of dark grey suffusion along termen from vein 8 to tornus, extending halfway towards cell, with edge tolerably straight, centre somewhat paler. Cilia pale grey. Hind wing with veins 3 and 4 stalked; whitish, suffused posteriorly with pale grey, cilia greyish-white.

Tegumen very short, spheroid, with a small angulate fold at each side. Uncus, a little curved, moderate projection. Valva elongate, basal third strongly concave, a triangular bristled knob at base; sacculus ending in a short point, a pointed moderate projection above this in disc. Aedoeagus with a clavate basal half, apical half obviously broken off. Vinculum erect-triangular, strong. (Slide No. 852 D, type).

Moss Forest Camp, 2800 m, November 3, 1938. One specimen. Closely related to *H. comitalis* MEYRICK.



Genitalia of Carposinidae. Fig. 542: *Meridarchis oculosa* spec. nov., male. Fig. 543: *Heterogymna polystigma* spec. nov., male. Fig. 544: *H. melanococca* spec. nov., male. Fig. 545: *Actenoptila eustales* spec. nov., female.

**Heterogymna polystigma spec. nov. (figs. 535, 543)**

*πολυ* = many, *στίγμα* = dot

♂ 22 m, ♀ 21—22 mm. Head and thorax white, the latter tinged greyish dorsally, a black spot on shoulder. Palpus white, basal half black, lower edge of median segment sometimes suffused with black. Abdomen white, in male slightly tinged pale ochreous. Legs whitish, anterior leg suffused with blackish-fuscous, median leg suffused with grey. Fore wing elongate-triangular, dilated; costa moderately curved anteriorly, less so posteriorly, apex obtusely pointed; termen gently curved, moderately oblique. Whitish, partially suffused and finely speckled with dark fuscous-greyish, markings blackish-fuscous. An elongate-semioval spot on base of costa, whitish-grey, edged with blackish-fuscous, this edge interrupted anteriorly below costa; an inwardly oblique pair of elongate longitudinal marks at  $\frac{1}{4}$ , upper costal, lower subcostal, shorter; three longitudinal marks along third fourth of costa, anterior mark elongate, median minute, posterior large, continued by blackish suffusion towards upper angle of cell; a small subtriangular spot above dorsum beyond base; an inwardly oblique curved series of four discal dots: first largest, elongate-ovate, just below fold somewhat before  $\frac{1}{4}$ , connected with second which is smaller, subapical, somewhat beyond preceding; third dot erect, transverse, just above and well beyond second, fourth larger, round, remote, well below costa beyond middle; another dot, sometimes larger than the fourth discal dot, before it just above fold; two large round dots, broadly interconnected posteriorly, forming a transverse patch on closing vein, connected by blackish suffusion with  $\frac{3}{4}$  of dorsum; fuscous-grey suffusion from beyond base of wing in cell and on dorsum, leaving narrow whitish edges around discal markings; an ill-defined subterminal blotch of sparse irroration, not reaching costa, becoming paler towards tornus, two suffused small grey dots on costa before apex, and sometimes a row of dark grey triangular interconnected dots along termen not reaching tornus. Cilia pale grey, basal half with a broad band of dark grey, suffused, narrowly separated blotches. Hind wing with veins 3 and 4 stalked; pale ochreous-whitish, or greyish-whitish, smoky greyish towards apex; cilia whitish, tinged pale greyish towards apex.

Tegumen broad, subconical. Uncus, a bent projection. Valva slender, narrowed; sacculus short, ending in a strong point; beyond this a strong, double transverse ridge-like fold representing the harpe; a blunt bristled projection towards base of disc of valva. Aedoeagus moderate, rather broad, stalk constricted, clavate; cornuti absent (possibly broken). Vinculum moderate. (Slide No. 853 D, holotype).

Ostium simple, not modified. Bursa copulatrix simple. (Slides No. 864 D, allotype, No. 1115 D, paratype).

Lake Habbema, 3250—3300 m, August 1, 1938 (holotype, male), August 16, 1938 (allotype, female), August 1, 18, 1938. Iebèl Camp,



2250 m, November 12, 1938. One male, four females. Very near to *H. collegialis* MEYRICK.

**Blipta** gen. nov. (fig. 546)

Head with appressed scales. Ocelli not perceptible. Proboscis very short. Antenna in male moderately ciliated, ciliations over 1, scape short, moderately dilated and flattened. Labial palpus long, subascending, median segment strongly thickened with appressed scales, roughened along edges, elongate-ovate, terminal segment under  $\frac{1}{2}$  of median, slender, clavate, subobtuse. Fore wing with tufts of raised scales on surface; 1b furcate, lower branch weak, 2 from near angle, 3 and 4 closely approximated towards base, 5 approximated, 6 remote, 7 and 8 separate, 7 to termen, 9 approximated. 11 from  $\frac{3}{5}$ . Hind wing with cubital pecten, trapezoid-ovate, over  $1\frac{1}{2}$ , cilia  $\frac{1}{4}$ . 2 from before middle, 3 from angle, 4 parallel, widely remote from 3, 5 absent, transverse vein strongly curved, end of cell being elongate-ovate, 6 well-developed, 7 to apex, 8 from base to before angle, closely approximated to cell, to  $\frac{6}{7}$  of upper edge of cell.

Genotype: *Blipta technica* spec. nov., male.

Perhaps an ancestor of the *Bondia*-type. Correlated with *Sosineura* MEYRICK, 1910. *Bondia xylinarcha* MEYRICK, 1910, from New Guinea also belongs to this genus.

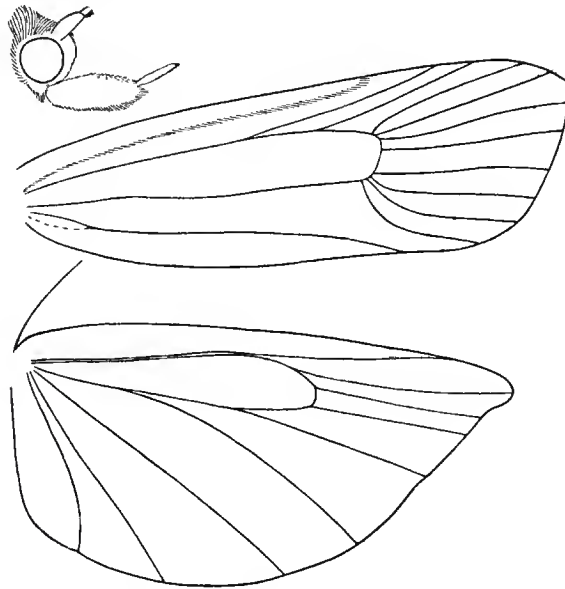


Fig. 546: *Blipta technica* gen. nov., spec. nov., male, head and wing neuration.

Key to the species of *Blipta*

1. Terminal black marks, about four small dots . . . . . *xylinarcha* MEYRICK
- Terminal black marks, four large wedge-shaped marks more or less connected along termen . . . . . *technica* spec. nov.

**Blipta technica** spec. nov. (figs. 537, 546) $\tau\epsilon\chi\nu\iota\kappa\acute{o}\varsigma$  = artful

♂ 35 mm. Head fuscous, face whitish edged fuscous. Palpus dark fuscous, upper edge of median segment paler posteriorly. Antenna fuscous, scape above, and rings on flagellum, dark brown. Thorax rather pale fuscous-ochreous, edged with darker fuscous anteriorly. Abdomen pale ochreous, anal tuft somewhat brighter ochreous, venter darkly infuscated. Legs fuscous-ochreous, anterior leg darker infuscated. Fore wing with costa almost straight anteriorly, slightly angularly prominent at  $\frac{3}{4}$ , apex obtuse, termen rounded, oblique. Rather light fuscous tinged with ochreous, anterior half of wing suffused with darker fuscous except on apical fifth; a round, brownish, finely dark-edged spot below fold at  $\frac{1}{5}$ ; five faint, small, rounded dark fuscous costal dots, decreasing in size posteriorly, first beyond  $\frac{2}{5}$ ; three somewhat darker brown, sharply defined marks on upper half of disc, minutely light-edged, and finely suffused with dark fuscous along margins except below; first of these marks beyond  $\frac{1}{3}$ , broad, crescentic, transversely oblique, extending from below costa almost to fold, second mark round, darkly edged throughout, below and slightly before first costal dot, third mark, a longitudinal streak sharply pointed anteriorly, with two rounded projections, at  $\frac{1}{4}$  of its length, and at the end, reaching from beyond second mark to transverse vein; a tuft of raised scales on posterior angle of cell, followed by a faint interneural suffusion not reaching  $\frac{1}{3}$  towards termen; a preterminal transverse series of three minute angulate dark brown marks in middle of disc; a series of four large conspicuous triangular dark brown terminal spots in cells 4—7, narrowly connected along terminal edge, two middle spots larger. Cilia fuscous tinged with ochreous, indistinctly barred with darker fuscous. Hind wing somewhat glossy pale fuscous, tinged fulvous posteriorly; cilia darker fulvous-fuscous.

Tegumen broad, strong: a truncate cylinder, ventral folds extended, thickened, with a marginal row of dense, short bristles, each fold ending below with an inward and an outward projection, both directed mediad, outward projection bristled. Uncus small, with a long, slender hook. Socius absent. Transtilla, a weak, membranous band. Valva moderate, costa moderately thickened, with a terminal tooth; cucullus slender, clavate, bristled; sacculus ill-defined, harpe a postmedian small tooth; base of valva is armed with a long rising spike, bristled at top, obviously being a modified crista. Vinculum rather long, erect-triangular. Aedoeagus with a long slender proximal rod, clavate anteriorly, and with a strongly dilated flattened and cuspidate distal portion, ending in a long point, and bearing a dense fringe of short bristles. (Slide No. 833 D, type).

Moss Forest Camp, 2600—2800 m, October 9—November 5, 1938. One specimen.

**Xyloides** gen. nov. (fig. 547) $\xi\upsilon\lambda\omicron\epsilon\iota\delta\acute{\eta}\varsigma$  = wood-like

Head with appressed scales. Ocellus not perceptible. Proboscis very short. Antenna  $\frac{3}{4}$ , in male ciliate over 1, scape moderate, flattened dorso-ventrally, somewhat dilated, roughish at apex. Palpus moderately long, ascending; median segment thickened with appressed scales, dilated, roughish below, reaching to base of antenna; terminal segment over  $\frac{1}{2}$  of median, vertically rising, cylindrical, slightly thickened, acutely pointed. Thorax without crest. Fore wing with raised scale-tufts, vein 1b fureate at base, 2 from towards angle, 3 from angle, 4 approximated to 5 at base, 7 apparently from below apex of cell, separate, to termen, 8 and 9 moderately approximated at base, 10 nearer to 11, 11 from beyond  $\frac{2}{3}$  of upper edge of cell. Hind wing with dense cubital pecten in male; over 1, trapezoid-ovate, cilia  $\frac{1}{3}$ ; vein 2 from middle, along basal part rather approximated to cell, 3 from well before angle, 4 from angle, 5 absent, 6 present, supramedian, becoming weaker posteriorly, 7 to apex; closing vein straight, somewhat outwardly oblique.

Genotype *Xyloides lamproxylon* spec. nov., male.

Allied to the preceding genus.

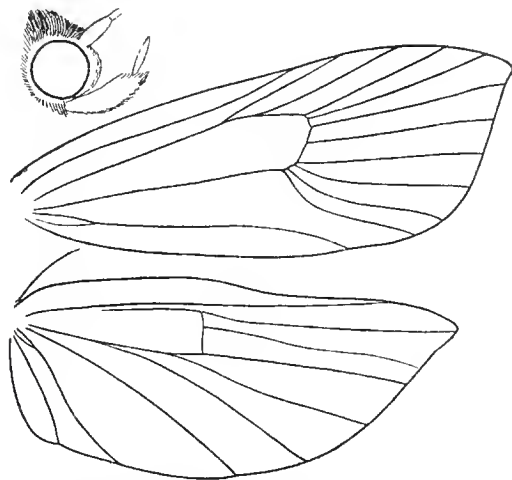


Fig. 547: *Xyloides lamproxylon* gen. nov., spec. nov., male, head and wing neuration.

**Xyloides lamproxylon** spec. nov. (figs. 541, 547) $\lambda\alpha\mu\pi\rho\acute{o}\xi\upsilon\lambda\omicron\nu$  = shining wood

♂ 19 mm. Head light ochreous, vertex and face edged with fuscous. Palpus fuscous, terminal segment light ochreous with a suffused median ring. Thorax (damaged) fulvous-fuscous, lighter posteriorly. Abdomen whitish-ochreous, suffused with grey. Antenna fuscous. Legs pale ochreous-fuscous, anterior and median tibia and tarsus dark fuscous light-ringed.

Fore wing elongate-subovate, with costa gradually curved, apex obtuse, termen straight, oblique. Rather glossy bronze-fuscous, markings blackish-fuscous, discal fine, minutely edged with paler, indistinct. Basal patch with oblique edge, costal half of patch dark fuscous, a minute dark streak on dorsum before base; six somewhat suffused moderate subtriangular costal dots, from before  $\frac{2}{5}$  to before apex, almost equidistant, edged with lighter posteriorly, except first and second dots; an oblique series of three small round discal dots below costa from before first costal to beyond second costal dot; a minute oblique streak at  $\frac{1}{4}$  of disc, running from fold halfway to dorsum, edged posteriorly by a ridge of slightly raised pale scales; two more such streaks, less distinct, above fold before middle and on transverse vein, respectively, first almost vertical, second longer, oblique; a cloudy indistinct dark fuscous suffusion from middle of cell obliquely to tornus, its anterior edge forming a more distinct narrow streak along end of fold; a cloudy, outwardly angulate dark fuscous-greyish preterminal suffusion from below costa to dorsum before tornus, preceded by a few pale ochreous interneural streaks above middle of disc; a row of small rounded dots in apex, along termen and in tornus. Cilia dark greyish-fuscous, faintly barred with lighter, a narrow pale basal line. Hind wing with veins 3 and 4 moderately approximated; glossy ochreous-greyish; cilia grey with a pale basal line.

Tegumen broad, subspheroid, simple, little sclerotized. Uncus absent. Socius, a patch of minute bristles. Valva moderate, little narrowed, cucullus elongate-ovate, short-bristled; sacculus ill-defined anteriorly, ending in an angulate projection, valvula semiovate, edge angulate, bristled. Vinculum strong, erect-triangular. Small cristae present. Aedoeagus long, slender, shaped like a pointed spoon, with a long narrow stalk, cornuti a comb of short, dense spines. (Slide No. 834 D, type).

Top Camp, 2100 m, February 19, 1939. One specimen.

### **Hystrichomorpha** gen. nov. (fig. 548)

$\psi\sigma\tau\eta\xi$  = porcupine,  $\mu\sigma\sigma\eta$  = shape

Head with closely appressed scales, side tufts large, roughly spreading. Ocellus absent. Proboscis developed. Antenna in female over  $\frac{2}{3}$ , simple, scape moderate, without pecten. Palpus rather long subascending; median segment strongly ovately dilated, with thick, little appressed scales, moderately projecting above and beneath posteriorly; terminal segment moderate, porrect, robust, obtuse. Thorax with little appressed scales, and with a small raised tuft at each side anteriorly, smooth posteriorly, large erect lateral crests in middle, tegula thickly rough-scaled. Fore wing with very large rounded tufts of strongly raised scales; 1b short-furcate at base, 2 from rather before angle, 3 from angle, 3—5 closely approximated at base, 6 submedian, 7 separate, to termen, 9 abruptly curved towards base and approximated to base of 8, 11 from beyond middle. Hind wing



with cubital pecten, semioval-subtrapezoid, rather pointed, under  $1\frac{1}{2}$ , cilia  $2\frac{1}{2}$ ; 2 from  $\frac{2}{5}$  of lower edge of cell, 3 from angle, 4 remote, 5 absent, 4—7 parallel, 6 rather weak, closer to 4, 7 to apex, 8 free.

Genotype *Hystrichomorpha acanthina* spec. nov., female.

Allied to preceding. Suggests a connection of the present family with the Copromorphidae.

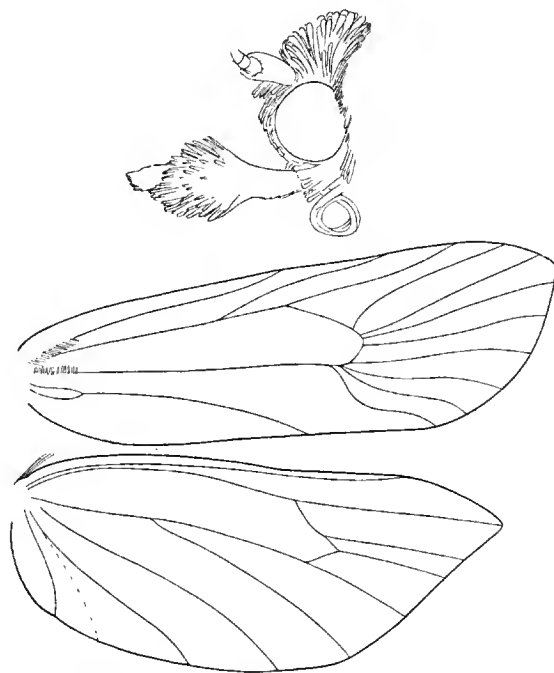


Fig. 548: *Hystrichomorpha acanthina* gen. nov., spec. nov., female, head and wing venation.

***Hystrichomorpha acanthina* spec. nov. (figs. 533, 534, 548)**

*ἀκανθωος* = thorny

♀ 21 mm. Head white, touched with pale yellowish, sides of face above, vertex, and side-tufts laterally irrorated with olive-grey-fuscous. Antenna whitish, ringed with olive-grey-fuscous. Palpus whitish, irrorated with dark fuscous except towards base of segments, median segment also with a subbasal ring of denser dark fuscous irroration. Thorax light straw-tawny, apex with a large erect-ovate dark fuscous patch of smooth scales, sharply edged with whitish anteriorly. Abdomen whitish, tinged pale greyish-olive, anal tuft whitish, venter whitish with a sublateral row of dark fuscous dots. Legs whitish, anterior tibia and all tarsi suffused with dark fuscous above, light-ringed. Fore wing with very large tufts of strongly raised scales; elongate-subovate, rather narrow, costa moderately curved, more so towards extremities, apex rather obtuse, termen rounded, oblique. Anterior  $\frac{3}{4}$  pale tawny-straw coloured, posterior fourth whitish; coarsely

irregularly dotted and irrorated with dark fuscous, markings black, dark fuscous and brown. A large transverse pale straw-tawny crest beyond base from costa to above dorsum, dilated towards the latter; an elongate mark of black irroration on costa beyond base; five somewhat suffused round black dots along costa from beyond  $\frac{1}{4}$  to rather before apex; four rounded strongly raised scale-tufts on second fourth of disc: an inwardly oblique transverse pair of larger tufts, one tuft above and one below fold, respectively, and a smaller outwardly oblique pair, one tuft below costa and one in cell, respectively; all tufts pale straw-tawny, irrorated with light fuscous below, base narrowly edged with whitish: of first pair only posteriorly, of second pair throughout; a very large, strongly posteriorly projecting pale tawny-whitish tuft of long raised scales along closing vein, base rounded anteriorly; a moderate patch of dark grey suffusion below three median dots, elongate-triangular, lower edge suffused with blackish, top reaching to below middle of closing vein, anterior angle with a large suffused black dot halfway between costa and cell in middle of wing, posterior edge of suffusion well-defined, concave, edging base of discoidal tuft from above; an erect oblique black dot above  $\frac{3}{4}$  of dorsum; preterminal area whitish, sparsely irrorated with pale tawny and fuscous-blackish; a straight transverse suffused dark fuscous streak from below ultimate costal dot to tornus, sending off a greyish-fuscous curved broader streak from middle of the latter to fourth costal dot; a small longitudinal streak of dark fuscous irroration below last costal dot traversing streak; two longitudinal groups of dark fuscous scales between veins before apex; posterior extremity of costa, apex, and upper third of termen, with a fulvous-brown streak, along lower part of termen to tornus, becoming blackish-fuscous. Cilia whitish tinged pale tawny towards apex; a broad antemedian band of blackish-fuscous rather sparse irroration, dilated below, not reaching tornus, and a narrow subapical dark fuscous line. Hind wing pale ochreous-whitish, tinged tawny-greyish, darker greyish towards apex; cilia tawny whitish, a faint darker median shade around apex.

Ovipositor erectile, moderately long. Eighth segment moderate, posterior edge long-bristled. Limen formed by two moderate lobes with thickened upper rim, separated by an angular emargination and a thin sclerotized trapezoid median plate with rounded top. Seventh ventrite finely punctulate. Ductus bursae rather narrow, wall punctulate. Bursa copulatrix large, elongate. Two signa, each with a round basal plate with two long pointed blades below, surface finely rippled, inner edge serrulate (collum of spermatophore extremely long, coiled within bursa). Slide No. 830 D, type.

Moss Forest Camp, five km northeast of Lake Habbema, 2800 m, October 26, 1938. One specimen.

## COPROMORPHIDAE

## Key to the Papuan genera of the Copromorphidae

1. Hind wing with veins 6 and 7 closely approximated at base . . . . .  
     . . . . . *Phanerochersa* MEYRICK  
     Hind wing with veins 6 and 7 remote, parallel . . . . . 2
2. Hind wing without cubital pecten . . . . . *Chersomorpha* MEYRICK  
     Hind wing with cubital pecten . . . . . *Copromorpha* MEYRICK

**Copromorpha** MEYRICK, 1886

*Copromorpha* MEYRICK, 1886, Trans. Ent. Soc. Lond., vol. 1886, pp. 281–282.  
 Journ. Bomb. Nat. Hist. Soc., vol. 16, p. 606, 1905. Exot. Microl., vol. 1,  
 pp. 555–556, 1916. FLETCHER, Mem. Agric. Ind., Ent., vol. 11, p. 55, 1929.

*Trychnostola* TURNER, 1916, Trans. Roy. Soc. S. Austral., vol. 40, p. 502.

Key to Papuan species of *Copromorpha*

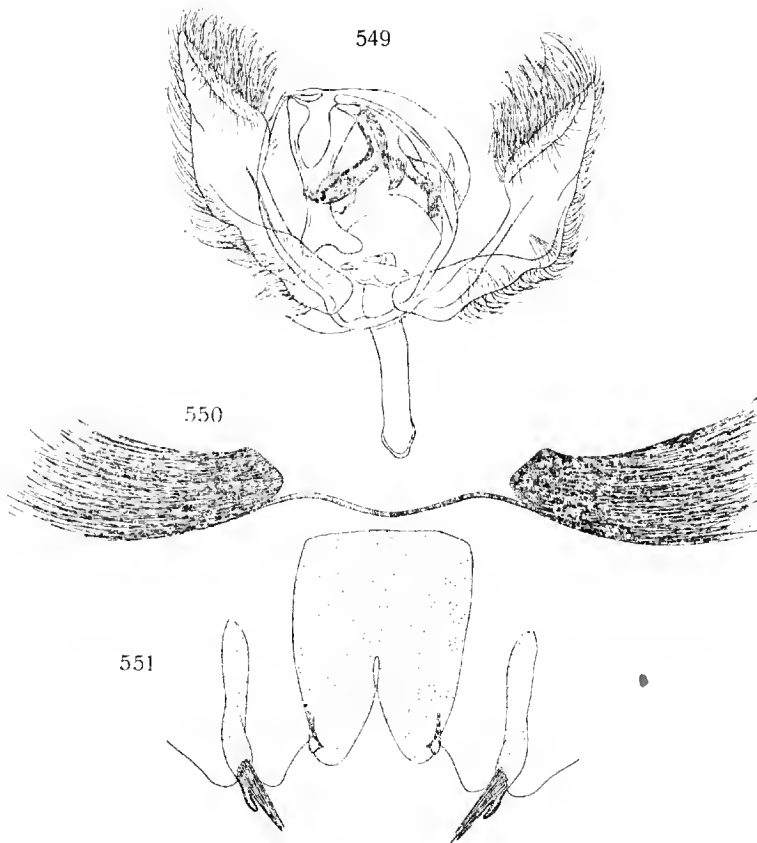
1. Ground colour light yellowish-green . . . . . *bryanthos* MEYRICK <sup>1)</sup>  
     Ground colour whitish-ochreous or pale ochreous . . . . . 2
2. No basal patch; a blackish streak on base of dorsum. *nesographa* MEYRICK  
     Basal patch present, though small or not complete; no streak on base of dorsum 3
3. Costal markings developed: blotch at base, trapezoid patch at  $\frac{1}{3}$  and two  
     transverse blotches beyond middle . . . . . *lignisquama* spec. nov.  
     Costal markings formed by small suffused dots . . . . . *nurcodes* MEYRICK

**Copromorpha lignisquama** spec. nov. (figs. 549, 550, 551)

♂ 28 mm. Head whitish-ochreous. Antenna flattened dorso-ventrally, unipectinate, pectinations 2, finely biciliate; dark brown, with broad whitish rings remote from each other. Labial palpus moderately long, subascending, median segment thickened, gently curved, terminal over  $\frac{1}{3}$ , pointed; sordid ochreous-white, basal third except upper edge suffused with dark fuscous-grey, terminal segment with a narrow suffused median greyish ring. Thorax sordid ochreous-whitish, slightly infuscated in middle, anterior edge dark fuscous-grey. Abdomen sordid ochreous-white. Legs sordid ochreous-white, anterior and median legs with knee, two broad bands on tibiae, and tarsi above, dark greyish-fuscous except articulations of segments. Fore wing with veins 8 and 9 short-stalked. Pale whitish-golden-ochreous; markings dark greyish-fuscous, partially edged with small snow-white tufts, similar tufts also sparsely scattered along veins, especially above tornus and before termen. A moderate basal patch not reaching dorsum, on costa with an elongate ill-defined dark fuscous-grey blotch reaching  $\frac{1}{3}$  across wing, with a pair of pale transverse marks below; this blotch is formed by rather pale ochreous dotting, more distinct

<sup>1)</sup> Originally described from Sarawak, but according to MEYRICK's notes occurs also in Malaya and the Bismarck Islands.

along posterior edge, which is angulate in middle of wing; a moderate subtrapezoid spot between  $\frac{1}{3}$  of costa and cell, with two pairs of small costal pale ochreous marks anteriorly, anterior edge of spot excavate below costa; a transverse band from costa well beyond middle to above dorsum, upper half tolerably vertical, with straight parallel edges, lower half abruptly dilated anteriorly so as to form a large subrectangular blotch in disc; upper anterior angle of this blotch connected with preceding spot, its posterior edge with a deep curved incision in middle of wing, its lower edge irregular, connected by transverse strigulation with dorsum; a rather irregular erect-subrectangular transverse patch from  $\frac{3}{4}$  of costa to middle of disc, moderately dilated in middle, with anterior edge irregular, lower edge truncate; posterior edge angulate, from this angulation downward coarsely serrate, continued below by a straight row of round dark fuscous dots with dorsum before tornus; two erect transverse irregularly edged spots on costa before apex, first dot largest; a broad terminal blotch from below apex to tornus, with upper edge concave, narrowly extended along margin of wing to apex; posterior edge appearing irregularly serrate by



*Copromorpha lignisquama* spec. nov. Fig. 549: male genitalia. Fig. 550: coremata.  
Fig. 551: modified sixth ventrite.



a row of round pale golden-ochreous terminal dots on veins: a few small dark dots sparsely scattered between dark markings: a group of cloudy fuscous dots above  $\frac{1}{3}$  of dorsum. Cilia pale golden-ochreous, becoming suffusedly deep golden-ochreous on basal half; a faint interrupted dark submedian fascia round apex. Hind wing pale ochreous-whitish, glossy; cilia sordid pale ochreous, whitish towards tips.

Tegumen spheroid. Uncus moderate, top dilated, bifid. Gnathos strong, edges covered with appressed short bristles; it is shaped as a porrect hook dilated before top, two descending rims, each ending below in a short blunt point, and a rising arm with a small projection below base of uncus. Valva moderate, elongate, submembranous, finely and densely haired; cucullus narrowed, with a dorsal fold; sacculus moderate, with a small blunt apical tooth. Transtilla absent. Vinculum, a curved rod with a small median projection. Anellus, a transverse subtrapezoid plate. Aedoeagus moderate, somewhat sinuate, top bluntly cuspidate. Cornuti absent. Eighth segment considerably modified: a pair of pencil-like lateral coremata present; ventrite with sclerotized median plate with deeply emarginate posterior edge, a small tooth at each side; a narrow sclerotisation at each side of this plate, ending on posterior edge of segment in a projecting point, below this a group of strong bristles. (Slide No. 936 D, type).

Mist Camp, 1800 m, January 10, 1939. One specimen.



